

PRACTICAL OBSERVATIONS
ON
THE CHRONIC ENLARGEMENT
OF
THE PROSTATE GLAND,
IN OLD PEOPLE;

WITH
Suggestions for an Improved Mode of Treatment.

TO WHICH IS PREFIXED,
PRELIMINARY REMARKS

ON
THE VARIOUS OTHER DISEASES TO WHICH THE PROSTATE
IS LIABLE AT ALL PERIODS OF LIFE;

THE WHOLE BEING ILLUSTRATED IN

AN APPENDIX,

CONTAINING

NUMEROUS CASES AND PLATES.

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P R E F A C E .

NOTWITHSTANDING the numerous and important diseases to which the prostate gland is liable, and more especially the frequent occurrence of that disorder of the prostate met with in old people, termed "chronic enlargement," and which induces such serious and lamentable results, there is not (at least so far as I am aware) any work exclusively dedicated to this important subject. It is true that brief notices of these diseases are met with in works devoted to general surgery, and somewhat more copiously in Sir E. Home's work on stricture, published many years since; also, in the later works of Brodie and Guthrie on diseases of the urinary organs; but still these notices are so interspersed with remarks on various other equally important diseases of the genito-urinary organs, as in a great degree to distract the attention

of the medical inquirer, thus preventing his devoting that strict attention to the diseases of the prostate gland which their serious character justly demands. It has also appeared to me, that from the importance of the subject under consideration, a great deficiency has prevailed in these works by their want of drawings, illustrative of the morbid appearances, that their authors and others may have met with, by which illustrations a correct idea of these diseases and their effects, together with the remedies requisite for their relief or cure, would be more easily acquired. It is then with a view of supplying this, as I imagine, desideratum, as well as to call the attention of the profession to the advantages likely to result from the employment of injections, in some of the diseases of the bladder, arising from enlarged prostate, that I now submit the following observations to public notice; how far they are calculated to effect the object proposed, it is not for me to say; at the same time, I trust they will not be found altogether unworthy the attention of the profession. As a literary composition,

I am fully sensible of its demerits, but as my object is solely what I have above stated, added to a desire to draw more directly than has yet been done the attention of the profession, especially of its junior members, to this interesting subject, I would fain hope that no apology on this head is necessary. If, however, any apology be requisite, I would merely remark, in mitigation of the critic's strictures, that they have been written during the brief intervals of leisure snatched from the active duties attendant on an extensive private and public practice.

PRACTICAL OBSERVATIONS
ON THE
DISEASES OF THE PROSTATE GLAND.

PRELIMINARY OBSERVATIONS ON THE PROSTATE
GLAND AND ITS DISEASES.

BEFORE proceeding to the consideration of that malady of the prostate gland, its consequences and their treatment, which it is the more immediate object of this treatise to discuss, it will not, I imagine, be thought superfluous or ill-timed to notice briefly the anatomical connexion of this gland with the urinary organs, and its use in the human frame; but, at the same time, as the medical reader must be supposed to be already well conversant not only with the anatomical relations of this gland, but also with the anatomy of the whole urinary organs, of which the prostate forms a part, and as to be ignorant of the anatomy of the whole collectively, or of any one part

separately, would totally incapacitate him to treat, with the slightest prospect of success, any one of the numerous disorders to which the genito-urinary organs are liable, so it would, I presume, be, as far as he is concerned, superfluous to give a detailed description of the anatomy of these parts, whilst to the non-medical reader it would be useless, as no account, however accurate and full, could supply the place of that knowledge which is absolutely essential to the proper understanding of the subject, and which, obtained originally in the dissecting room, still requires to be confirmed and brought into operation in the fields of practice, in order to render it available to our successful treatment of the various diseases with which we may have to contend; for however confident we may feel, and in a great measure justly so, from our knowledge of these parts acquired in the dissecting room, and our easy and frequent introduction of instruments in the *dead body*, yet this information, though undoubtedly great, is not of itself sufficient to complete our qualifications as *practical surgeons*; for it is only by close observations made on the *living body* whilst labouring under disease—and

in these cases by, at that time, the frequent employment of the necessary instruments required for their relief or cure,—that we can acquire that *tact* and *delicacy of touch* that not only contribute to our success, but also to the comfort of our patients, by the diminution of their, to a certain extent, unavoidable sufferings. There are but few patients who, if they have been under three or four medical men, will not at once be able to recall to their memories, if they have even ever forgotten it, the difference to their feelings from being operated upon by a heavy, harsh hand, and a light and gentle one; from the latter they suffer comparatively little or nothing, whilst from the former their sufferings are of the most acute kind. Indeed, it needs but a brief experience in the treatment of these disorders to convince us, if we unfortunately require to be so, of the vital importance it is to obtain a nicety and lightness of touch in the use of bougies and catheters (the instruments usually employed in the disorders of the urinary organs to which these observations refer), if we would expect success in our treatment. The disastrous effects of a want of these, in my opinion, *essential qualifications*, are daily

being presented to my notice, and that too, not unfrequently from the hands of those whose well-known and admitted anatomical knowledge is such as to afford no grounds to suppose it to be the result of ignorance, at least of *anatomical ignorance* ; nay, strange as it may at first appear, there is, in my opinion, too much reason to fear that that very knowledge is the main source of all the evil. Blindly confident in their perhaps superior anatomical knowledge, they allow themselves to be seduced into the employment of force to overcome the impediments offered to the passage of their instruments, and thus not rarely, notwithstanding their superior acquirements, produce as untoward results as could possibly follow from the operations of the most bold and ignorant pretender : thus, by their unpardonable rashness, inflicting upon their patients severe and protracted agony, and at the same time degrading their well-earned reputations to the level of that of the barber surgeons of the olden time. Such cases should serve as a warning to the profession how, presuming on their anatomical knowledge alone, they allow themselves to be seduced into the employment

of force, when called upon to use instruments in diseases of the urinary organs. For my own part, I have no hesitation in saying, that *no man's* knowledge and experience, however great, can be sufficient to justify him in wantonly thrusting an instrument through all impediments, and at all risks, into the bladder: I say wantonly, because I have yet to learn what cases are sufficiently urgent to warrant such a course. Whether, however, there be such cases or not, matters but little, as it is to the indiscriminate employment of force, which I know to be too common, that I now more particularly allude.

From the foregoing remarks, it may perhaps be thought that even a concise account of the anatomical relations of the prostate gland with the urinary bladder and urethra, is altogether unnecessary; but I repeat I trust it may not be deemed superfluous, because, although I disclaim all attempt to convey a complete and full knowledge on this subject, yet I imagine that a brief description, such as I purpose to give, may serve to prepare and assist the minds of my non-medical readers, so that they may the more

readily understand and appreciate those serious evils that attend and multiply on the disorders of this gland, and hence learn the necessity of seeking, should they unfortunately be victims to *any of the distressing maladies* to which it is liable, timely and efficient surgical aid. Having considered the prostate in its anatomical connexions, I shall briefly, before proceeding to treat of the “chronic enlargement of the prostate gland in old people,” bring under the notice of the reader some of the other diseases to which this gland is liable, the symptoms that mark their presence, and the means to be adopted for their relief or cure. First, then, of the

ANATOMY OF THE PROSTATE GLAND.

This gland is a substance of rather firm consistency, of a whitish grey colour, and is situated at the neck of the bladder, (part of which it encloses,) and the commencement of the urethra, in the formation of which it materially assists, being, in fact, the connecting bond of union and support between the open-

ing or neck of the bladder, and the commencement of the urethra, or urinary canal. In its natural state, it nearly resembles a chestnut in form and size. It is usually described as consisting of three lobes, some, however, say that it is composed of two only; but as I conceive the former to be more correct, as well as for practical purposes more useful, I shall so describe it.

The prostate then is composed of three lobes, all firmly and intimately joined to each other. Two of these are placed laterally, one on each side of the urinary canal, and are of equal dimensions. The third, a small rounded body, is placed posteriorly between the urethra and rectum, and forms the connecting medium for the two lateral lobes, as well as a support to the inferior prostatic portion of the urinary conduit. This gland secretes a whitish, ropy mucus, termed *liquor prostaticus*, which is discharged into the urethra by its ducts during coition—thus facilitating the exit of the semen. It also may serve for the purpose of lubricating the membrane of the urethra, in common with the proper mucous glands of

the urinary canal, and thereby protect the lining membrane from the acrid urine in its passage from the bladder. Thus then the prostate may be considered as for the purpose of connecting and strengthening the union of the urethra with the neck of the bladder, and of secreting a fluid for the lubrication of the lining membrane of the urinary canal. Having thus briefly, as I premised, treated of the anatomy of this gland, I shall now, with equal brevity, proceed to consider some of the various diseases that are occasionally found existing in it. Thus the prostate, at all periods of life, is liable to become the seat of

ACUTE INFLAMMATION.

When the prostate is thus affected, it is mostly, especially if the patient be not far advanced in life, in consequence of some disease in the contiguous parts, as, for example, from the metastasis of gonorrhœal inflammation from the anterior portion of the urethra to the prostatic; and it rarely, if ever, arises as a primary affection. With regard to the

Symptoms of Acute Prostatic Inflammation,

They are, for the most part, some such as the following:—A patient, labouring under an attack of gonorrhœa, finds that the discharge consequent upon that disorder ceases somewhat suddenly, at the same time he is surprised that there is not a corresponding diminution of the inflammatory and painful symptoms, but, on the contrary, an aggravation of them; that he has a more frequent desire to void his urine, which passes both with pain and difficulty; in some cases, he is attacked with a total retention: whether, however, this be so or not, he feels considerable pain at the neck of the bladder and over the pubes, also along the whole course of the urethra and in the perinæum, accompanied by a sensation of weight, fullness, and throbbing, all of which distressing symptoms are increased upon passing his water, and continue for some time afterwards with a cutting sensation of heat and burning in the rectum and in all the surrounding parts. In some cases, when the

attack is violent, he feels as if there were more urine to be voided, and also as if the rectum were distended by a lump of hardened fæces, which seems as if it would escape upon each attempt to urinate; and if the patient endeavour, in consequence, to evacuate the contents of the rectum, he finds it useless, whilst a few drops of urine only are squirted from the bladder, producing a momentary relief only, which is soon lost by the recurrence of similar urgent desires; and if in compliance with them the patient renews the attempt, it is only to be mortified by the like result: thus is he tantalized by the strongest sensations, urging him to renewed attempts, and the consciousness of the futility of his yielding to those sensations. Upon examination per anum, the prostate is mostly found swollen and painful to the touch; and lastly, there is more or less constitutional disturbance, according to the violence of the local disease. It should have been stated, that all these symptoms not unfrequently arise without any cessation of the gonorrhœal discharge.—With regard to the

Treatment of Acute Prostatic Inflammation,

In this, as in all inflammatory disorders, our treatment should have for its object the resolution of the inflammation,—hence our remedies should all be directed to this end; thus if the patient be young and of a plethoric habit, blood should be taken freely from the arm, leeches applied to the verge of the anus and on the perinæum, and the bleeding after they are off encouraged by the use of warm fomentations, or better still by the application of a large poultice, which may be renewed every second hour; the bowels should be freely opened by the administration of a laxative clyster, and, as soon as they have been so, an opiate enema may be given with advantage; whilst care should be taken, on the one hand, that the fæces are not collected in the rectum, so as, by distending it, to press on the inflamed prostate; so, on the other hand, care must be equally taken that too free an action is not produced on the bowels, as the continued calls and straining resulting

from this would tend to keep up considerable irritation in the inflamed gland. Nor should the patient drink freely of emollient fluids, as recommended by some, as, by their augmentation of the urinary secretion, they would but add to the sufferings of the patient, by the necessarily increased desire they would cause for its evacuation. In all inflammatory affections, in whatever part of the body they may be seated, repose is both beneficial and essential; nor is this less the case in prostatic inflammation, hence the cruel absurdity of administering medicines and drinks calculated to increase the urinary secretions, and consequently the action of the inflamed organs of urinary excretion; for the whole of them, more or less, sympathise with and are affected by the diseased prostate. In some cases, as before stated, a total

RETENTION OF URINE

Is the result of prostatic inflammation; when such is the case, it becomes a source of no little difficulty to

the surgeon as well as danger to the patient, for on the mode of treatment that may be adopted depends in a great degree the future progress of the malady. Let us suppose, then, that we are called to a patient labouring under all the foregoing symptoms, accompanied by a retention of urine; what steps shall we take for the relief of the patient? We see him the victim of the most agonizing pains, tormented by the most urgent desire to evacuate the contents of the bladder, and when at length he yields to stern necessity, and attempts to do so, the agony he suffers becomes indescribable—his face is flushed, his eye wears an expression of singular excitement and anguish, and, in short, his sufferings are only equalled by the imminent danger which threatens him. What is required for his relief?—The evacuation of the contents of the bladder. How is this to be accomplished, and by what means soonest?—The introduction of the catheter would at once place the patient in comparative safety and comfort. Thus then we have an immediate remedy at hand, yet are we forbidden to use it by many high surgical authorities, and are told to apply other means; those

others being bleedings both general and local, the warm bath, fomentations, clysters, &c. ; but in giving such directions, they appear to forget that these remedies all require time, and when used are at best but uncertain, and that the patient is in the meanwhile labouring under the most acute agony ; and further, even after we have tried all these means, and doomed our patient to this prolonged misery, we are not unfrequently at length compelled to resort to the very remedy we had before repudiated, and which, had we at once sought, would in all probability have immediately relieved our patient. Yet let it not be supposed that I am here advocating the indiscriminate and immediate employment of the catheter in cases of retention—far from it ; for I readily admit that we should not allow our feelings or the sufferings of our patients, great as they may be, to influence our judgments, or his earnest pleadings for immediate relief, to seduce us into hastily and rashly using the catheter. No ; we must first inquire into a few more particulars :—thus then we should ask if the patient has had any previous similar attack, and if so, what means were used

for his relief, and with what success; but, above all, we should inquire if the stream of urine has gradually diminished in column for some time past; or if, on the contrary, up to the time of the attack, it has been of the natural diameter? Should the former be the case, we may justly suspect the existence of stricture in addition to the other maladies, and it will then become a serious question how far the retention of urine was connected with the state of the stricture; and, in short, whether the retention of urine might not have arisen from an increase of inflammation in the stricture and its vicinity, from the attack of gonorrhœa, or the means that may have been adopted for the cure of the latter. Should this unfortunately be the case, and the stricture itself be impervious to the bougie, we should undoubtedly most seriously aggravate the danger and sufferings of our patient were we to attempt the use of instruments in this case; but if, on the contrary, we are, after having made our inquiries, satisfied that there is no stricture, and that the retention arises solely from the other causes alluded to, why then I confess, that I, not having

the fear of the aforesaid high authorities before me, should be inclined to attempt the immediate relief of my patient with the catheter; for, not to mention his present urgent sufferings—a point though of no trifling consideration—I think it must be self-evident that the increased determination of blood to the inflamed prostatic portion of the urethra, as also to the already highly excited bladder, resulting from the continued and repeated ineffectual attempts to void the urine, must in no slight degree tend to aggravate not merely the existing inflammation, but also to extend it to the bladder. Another source of irritation which we should not disregard, is that we find to arise from the prolonged over-distension of the bladder with the urine, which, in consequence of its retention, is deprived of its watery particles, and thus rendered unusually obnoxious to the sensitive internal mucous membrane of the bladder. Thus by delay, if the foregoing observations are correct, we not only incur the risk of increasing the existing inflammation, but also the danger of extending it to the bladder itself, and thus diminish the probable success of any antiphlogistic means we might in

preference to the catheter adopt. At the same time, I would strongly recommend the surgeon not to try the catheter first, without from the repeated use of that instrument he feels a well-grounded confidence in his own dexterity, so that he can safely rely upon overcoming at least the ordinary impediments to its introduction by which he may be opposed. Be this, however, as it may; but let him at any rate, if he at once make the attempt, above all things be careful that his desires to relieve the patient immediately do not seduce him into the unpardonable error of employing undue force to that end; for if he do, he may rest assured that such ill-judged zeal will infallibly aggravate the sufferings it must be his earnest desire to assuage; but rather, if he find that by well-directed but gentle means the catheter will not pass, let him, mortifying as it may be both to himself and the patient, at once desist from his endeavours, and without delay have recourse to the antiphlogistic treatment above suggested. By this mode of proceeding, although he may have the mortification of failing, he will at the same time at least have the satisfaction of feeling that he has

not increased the evil; whilst, from an obstinate perseverance in his endeavours to pass an instrument, he will, in addition to the pain of failure, have the double mortification of feeling that by his injudicious and wilful conduct he has placed the life of a fellow-creature, who looked to him for aid in the hour of need and anguish, in jeopardy, or, at best, most seriously increased and prolonged his already insupportable agonies. Should the surgeon, however, be fortunate enough to pass the catheter, another question of no little importance will immediately arise, namely, whether it be proper to withdraw the catheter after the bladder has been emptied, or allow it to remain, in order to guard against the possibility of any future retention? For my own part, I should (especially if there has been no great difficulty in its passage), as a general rule, without hesitation, recommend that the catheter be withdrawn as soon as the bladder is emptied, as its being retained would, in my opinion, be the cause of exciting additional irritation and inflammation. Advocates, however, are not wanting for its retention, urging the danger and likelihood, that in a short time

it may be necessary to pass it again, and that we cannot insure its successful introduction; but, for my own part, I would sooner run this remote and uncertain risk than incur the heavy responsibility from the certain irritation which I know would result from the retention of the catheter, especially as I should, immediately after I had emptied the bladder, have recourse to every means in my power to subdue the existing inflammation, and thereby proportionately lessen the chance of any future attack of retention.

Well then suppose we are called to such a case as the above—that, in short, the patient is labouring under prostatic inflammation, accompanied by a retention of urine, and that he has not stricture—what then should we do for his relief? Are we to wait the result of our bleedings, purgings, &c., dooming him in the meanwhile to the most cruel torture? I should say, most certainly not; reason and humanity bid us follow the dictates of common sense in preference to the dogmas of a school, and seek at once for the most immediate means of relief, not allowing

petty fears of remote and uncertain evils to prevent us boldly grappling with those before us; and having done this, then by wise and timely measures avert the dangers to be dreaded from a relapse. First, then, let us employ the catheter, and for this purpose a small flexible one without the wire will be best. Having thus assuaged the more immediate agony of the patient, we must quickly follow it up with other means, both as curatives and preventatives. These will be bleedings general or local, one or both, according to the habit of the patient, and the violence of the symptoms—the warm bath, enemata first purgative and then opiate, and thus endeavour to prevent the recurrence of the retention, and cause the resolution of the inflammation; but unfortunately this is not always in our power (especially when the patient is of a scrofulous habit of body), and the result is the formation of

A PROSTATIC ABSCESS.—ITS SYMPTOMS.

Thus then prostatic inflammation may terminate in suppuration, and thereby give rise to that formidable disease, prostatic abscess. The symptoms that mark such a result are not unfrequently uncertain and obscure. Rigors occasionally give evidence of this event, but not always. Sometimes the first indication of the existence of an abscess arises from a retention of urine being caused by it, and upon a surgeon's introducing the catheter to relieve the latter, the existence of the former is made apparent by the rupture of the abscess with the point of the instrument and the escape of matter. But this can only occur when the abscess points inwardly, that is towards the urethra. The following case may serve to illustrate how insidiously in some cases may be the formation of prostatic abscess.

A gentleman from the country called to consult me on a supposed case of stricture of the urethra,

under which, he informed me, he had laboured for some time ; he had had bougies passed by his medical attendant in the country, but with only slight relief, for although a large bougie could be passed, yet he made water both with difficulty and pain. Upon examination, I passed a large bougie with ease ; there was no stricture, yet I felt something unusual at the prostatic portion of the urethra, but from what it arose, I could not satisfy myself. It was evident, however, to me, that be the disorder what it might, there was the seat of his malady. I confess I was somewhat puzzled to satisfy my patient's inquiries as to the name of the malady under which he laboured ; I therefore contented myself with informing him that it was not stricture, but that before I could give a decided answer to his question, I should like to make another examination, and I accordingly made an appointment for a future day. At my second examination, I felt inclined to pronounce the existence of an abscess ; but as I could, upon examination per anum, discover no swelling, nor upon the minutest inquiry obtain any grounds to pronounce it so (beyond the sensation

conveyed to me by the point of the instrument), as there was no constitutional disturbance that could lead one to suppose that such an event had taken place, nothing, in short, beyond a sensation of fullness conveyed to the hand by the sound at passing the prostatic portion of the urethra, I did not feel myself justified in alarming my patient by expressing my fears. I ordered some medicines, and as the catheter gave slight ease, I determined to use it occasionally. Thus matters remained for ten days, when, upon passing the catheter, I felt the resistance to its passage greater; not however, if I may so express myself, a firm resistance, but just such a sensation as one may imagine from the pressure of the point of a catheter against an abscess. I at once determined, if possible, to cause its rupture, and therefore thrust the point of the catheter firmly against the tumour, which was thereby ruptured, and the catheter entered the cavity of the abscess, as was apparent from the escape of the pus. As soon as it had ceased, I partially withdrew the instrument in order to free its point from the abscess, and then passed it into the bladder, and drew off the urine, which I continued to

do as often as necessary, until I had reason to believe the abscess had healed. In six weeks the patient returned into the country, apparently quite well.

From the foregoing, it would appear that this disease may exist without in its earlier stages producing any very serious or urgent symptoms. But this is not always the case, more especially as the disease advances; the pulse then becomes frequent, the skin hot, the tongue furred, the patient has attacks of shiverings, and manifests other symptoms both of local and general disturbance. If the abscess point externally, that is towards the perinæum, there is mostly a slight fullness and hardness evident in that region, which is still more perceptible upon an examination per anum. As soon as this is the case, no time should be lost in making a free incision into the tumour, in order to facilitate the escape of the pus; by this means the patient's danger and sufferings will be greatly diminished. When this is not done, the matter gradually makes its way through the fascia cellular membrane and muscles of the perinæum, and finally

the skin. In other cases, it escapes internally, that is into the urethra, and is discharged with the urine. The

Treatment of Prostatic Abscess

Should be prompt when it appears externally, and, as above remarked, no time should be lost in producing its free and early evacuation by the lancet. When it bursts internally, the catheter should be used constantly, and the patient on no account allowed to pass his urine without it. Much advantage will be found from the injection, through the catheter, of warm water twice a-day, and in some cases I have found no little benefit from the injection of mild astringent lotions: at any rate, the catheter should not be left off until the urine ceases to be purulent, and we feel assured that the abscess has healed, as by a neglect of this kind we might lay the foundation for another serious disease of the prostate, namely,

CALCULI OF THE PROSTATE GLAND.

This disease, as explained above, may arise from a neglect of using the catheter to draw off the urine in prostatic abscess, whereby some calculus deposits that may have formed in the bladder, being voided with the urine, become lodged in the cavity of the abscess, or from some portion of the urine escaping into the opening, and then forming some calculus concretions. There is, however, another species of calculi, found occasionally in the prostate, appearing without any previous ulceration of that gland, and contained in cyst formed in the prostate itself, and also sometimes in its ducts. The celebrated Morgagni mentions having found several of these varieties of calculi upon dissection, and quotes many other observations, made on the same subject, by other authors. Thus he (Morgagni) mentions a case of a man who died from a complication of urinary disorders, in whom he found "certain yellow and small calculi, fixed up pretty high in the prostate."

Marcellus Donatus, in his *De Medica Hist. Mirab.*, says that “a man, in whose prostate he found a stone, could not discharge semen, in coitu.” Frederic Lossius (*Obs. Med.*) says that “one cause of impotence which he has met with has been from ‘*Calculus exactissime meatum illum claudentem qui a prostaticis in urethram dehiscit.*’” Nicolas de Blegny, speaking on the same subject, says that “he has found stones in the vasa ejaculatoria, most of which were of the shape and size of a pea.” Cases are also mentioned by Bell and Cooper; the former mentions the following interesting case. “This old man,” he says, “sent in* by Sir Joseph Banks, has for many years been subject to irritation in the urinary organs, and to stoppage of his water, and at different times he has passed small calculi of a very irregular shape. His wife has shown us some of these; they are prostatic calculi. When I first saw him, he was obviously in the utmost danger; he was asleep, and when I awoke him, I found his voice small, his features sharp,

* The Middlesex Hospital.

his hand cold, and his pulse very feeble. On turning off the clothes, the scrotum and penis were found distended, and a considerable tumour of the perinæum was evident. The tumefaction was not from inflammation, but from extravasation. The flexible catheter was used ; it did not enter the bladder, it was obstructed at the turn of the urethra : notwithstanding the instrument did not enter the bladder, urine and pus came pretty freely through it. This proved to me that there was a sac formed by suppuration, which contained urine. Another attempt was more fortunate ; the catheter passed through the abscess and reached the bladder, and a pint and a half of very fetid turbid urine was drawn off. In passing the catheter, there was a sensation as if the instrument touched a stone. The belly had been much distended ; now it was flaccid and as if emptied, without recovering its usual tone by the support of the abdominal muscles.

“ The abscess lancet was then used ; first, it was passed into the perinæum, so as to open the fascia, and then turned with the point forward into the

scrotum. Two punctures were then made into the scrotum, one on each side of the septum ; the fluid drained off copiously through these openings. Fomentation cloths were applied, and an opiate enema was ordered.

“Next day, mortification of the scrotum had begun, and the patient’s strength was failing. There lay near him a big Irish labourer, in the same condition as to the parts ; but this patient is old, and his constitution is exhausted. He died on the fourth morning after he was received into the hospital. On examination, the scrotum had much putrid matter in it ; on splitting it and dissecting it back, there was seen in the perinæum a cavity of the size of an egg, which was crammed with small stones : in the prostate gland were many of these calculi : the bladder was contracted, and the inner coat inflamed.”

These calculi vary much in size and number, as well as situation ; some being as small as a pin’s head, others as large as a cherry ; being sometimes

found in the bag of an old abscess, at others in cysts, and again in the ducts of the prostate. As regards the

Symptoms of Prostatic Calculi,

They are somewhat obscure, as there is no symptom of this disease that may not arise from some other disorder of the urinary organs and its appendages. Thus the retention of urine which it sometimes causes, or the pain and difficulty of voiding the urine, or emitting the semen, &c., may arise from many other causes besides this; nor, upon examination, are we always clearly able to ascertain the existence of prostatic calculi. It is true that, upon an examination with a sound, if the stone presents only a portion of itself in the urethra and uncovered, we are at once made aware of the existence of an extraneous body; yet, beyond this, we have no evidence to tell us whether it is in the prostate, or comes from the bladder, for it may as easily be the one as the other. Occasionally, however, this may

be made clear from an examination of the prostate per anum. Sir A. Cooper, in his published Lectures, seems to think that the existence of this disease may be easily ascertained by such an examination ; but, with all due deference to the worthy baronet, I must say, that it does not appear to me so easy as he imagines. For, although a finger introduced into the rectum may readily tell us that the prostate is enlarged, it is not so clear to me that it will tell us also the cause of that enlargement, without indeed the stone be large, or projects considerably backwards. But, however obscure and difficult as the diagnosis is, there is no need of hesitation with regard to the treatment, when we have once ascertained the existence of a foreign body, be it lodged in the urethra, the bladder, or prostate.

Treatment of the Prostatic Calculi.

This is comprised in a few words. The stone must be extracted: the means to be adopted to this end will depend on each case. If the stone be small

and project into the urethra, it may be possible to extract it by means of the urethra forceps, or it may be necessary to employ the knife. It would be superfluous here to detail the operations that have and may be employed for this purpose, as they are fully detailed in the numerous existing works on operative surgery, to which I therefore beg to refer my readers.

SCROFULA OF THE PROSTATE GLAND

Is a disease occasionally found existing in this gland, and when it is so it is, as in other parts of the body, most difficult of cure. There are no particular symptoms which would enable us to distinguish it from the various other disorders to which this gland is liable. When, however, from the appearance of the patient, we are led to believe him of a scrofulous habit of body, it is probable that the same means which would relieve him of the disease, were it seated in any other part of the body, would be found beneficial.

The next disorder of the prostate which claims our attention, is one that I am disposed to think is not of unfrequent occurrence, namely,

ENLARGEMENT OF THE PROSTATE FROM A VARICOSE
STATE OF ITS VESSELS.

I think this is very often a cause of enlargement in the prostate, and, consequently, of urinary obstruction. Swediaur, speaking on this cause of enlarged prostate, says, "Another more frequent cause of the tumour of the prostate is the varicose swelling of its vessels, and of those in the cellular tissue, which unites it to the neck of the bladder, and the commencement of the urethra. Anatomy shows that these vessels form a plexus very visible to the eye, even in the natural state, and without the help of injections. This vascular plexus is susceptible of a considerable dilation, and often exhibits a species of salient protuberances in the neck of the bladder, and similar to those which varices form in other parts of the body."

In this disease the prostate does not increase in size proportionally with its teguments. Their tissue is sometimes soft and spongy, sometimes dense and hard, according as the swelling is recent or old; in short, this varicose swelling of the prostate presents the same varieties as the hæmorrhoidal tumours, with which it has much analogy, and with which it is often complicated. Both these, and other diseased states, are as often the effect as the cause of a retention of urine and of constipation: nothing gives rise to them so much as the efforts which patients exert to make water, or to go to stool. The violent contraction of the abdominal muscles, by pressing strongly the viscera of the abdomen, and thus impeding the return of the blood by the iliac and mesenteric vessels, produces an accumulation of blood in the veins of the perinæum; and, by a necessary consequence, a kind of obstruction of all the viscera situated in that region. But in this case the varicose swelling of the prostate is posterior to the retention of urine, which it keeps up in its turn. The tumour of that gland also often precedes the retention of urine, and is its primitive cause. This disposition is not unfrequent in old

men, and even in young persons who have indulged to excess in venereal pleasures and spirituous liquors. It is also very frequent with those who have had several blenorrhagias and piles, complicated with obstruction in the abdominal viscera.

The retention of urine from the varicose state of the prostate is known, *first*, by a union of the symptoms common to the swelling of that gland; *secondly*, by the slowness with which the retention has come on, commonly preceded by a difficulty of making water, the progressive increase of which has been marked by species of paroxysms more or less violent wherever the patient has been on horseback, or in a carriage, or taking exercise or heating liquors or food, capable of producing the same effect; *thirdly*, by the indolence or little sensibility of the tumour formed by the prostate, which is known by pressing the gland with the finger introduced into the rectum; *fourthly*, by the want of smarting when the urine crosses the canal, and of the signs common to other species of swellings of the prostate, and by the presence of some of the predisposing causes enumerated above.

When there is a complete retention of urine, it is urgent to discharge it by the sound; but this operation is not easy even for the most skilful operator. The rules and precautions given for the inflammation of the prostate are applicable here; it is when the swelling is varicose that the large sounds are preferable to the small ones, and those of gum elastic to metallic catheters, which are not so free from inconvenience when they are to remain in the bladder.

When the sound is stopped by the stricture of the portion of the urethra embraced by the prostate, instead of drawing it out to make fresh attempts, it is better, when one is certain that its beak is in the direction of the axis of the canal, to lean with force against the obstacle, and support it in that position; the pressure which the beak makes on the swelled sides of the urethra lowers them by dissipating the humour which swells them, and gives a facility for pushing in the sound on a second attempt. Continuing thus, sooner or later, we get into the bladder. It is with this view that catgut bougies have been employed. After having introduced one of them into

the canal as far as the stricture, it is fastened, and then, swelling by the moisture of the urethra, separates the sides of it, and allows a second to enter further. When Desault had not yet acquired that habit of sounding, which afterwards enabled him to get over with safety all obstructions of this kind, he used with success these catgut bougies. But they have the disadvantage, *first*, of acting too slowly, especially when the danger of retention is urgent; *secondly*, of being too stiff when introduced, and yielding with difficulty to the different bends of the urethra, which sometimes makes their introduction painful; *thirdly*, they cannot serve twice immediately; *fourthly*, they must be drawn out and renewed every time the patient wants to make water, which makes a great number of them necessary, together with great assiduity on the part of the surgeon. It sometimes happens that the sound, hitting some of the dilated vessels in the canal, tears them, and occasions bleeding. This, far from being hurtful, is often useful; it is a local bleeding which empties the vessels, and renders the entrance of the sound easier. When this bleeding does not happen,

and the sound cannot be introduced, it is advisable to apply leeches to the perinæum, or to empty the vessels by a bleeding or two in the arm. This, though not so efficacious as if the blood were drawn directly from the swelled parts, has nevertheless been tried with success.

After the urine has been evacuated by the sound, it must be left to rest in the bladder. Its presence in the urethra is necessary to dissipate the swelling of the prostate, and that of the portion of the canal which crosses it. The use of it must even be continued a long time; it must be cleaned every eight or ten days (I think, better every two or three), and replace it by a new one whenever it is altered or encrusted by the urinary sediment. A perfect cure can scarcely be expected in less than six weeks or two months, and it must not be forgotten that the complaint is subject to a relapse. To prevent it, it is prudent not to leave off the use of the sound all at once, and even subject the patient to keep it in at night (or rather for a couple of hours in the evening) for some time after his apparent recovery.

When we reflect on the analogy between the varicose swelling of the prostate, and that of the same kind, which so frequently comes on the legs, we find that the same principles are applicable to their treatment. Now, experience has proved that the latter can only be cured by a strong compression, long continued.

“ It is in part by the same mechanism that a sound acts; and this led to the idea of making bougies of lead. It was conceived that, being harder, they would press stronger, and that their effect would be quicker, and more determined. But these bougies could not let out the urine like sounds of gum elastic; they are not solid enough to overcome the obstructions of the canal, and, though flexible, are too hard to follow exactly the bendings of the urethra. It is to be feared, moreover, that in pressing some points too much, they might occasion injury which might soon become gangrenous. After all, it is not to the pressure alone that the success of sounds is owing; their stay in the canal draws on this part and on the prostate a sort of irritation, which may greatly

contribute to their discharge. In fact, this slight inflammation is soon followed by a puriform discharge, more or less abundant; from which, perhaps, result the diminution and obliteration of the vessels, and dilated cells; while the sound, keeping the urethra dilated during this work of nature, preserves the freedom of that conduit. However, I give this explanation only as a conjecture, which is not unlikely nor improbable."

The above extract so fully explains the nature of this malady, that any additional observations on my part would be superfluous; still I think it necessary to state that I should not be inclined to leave a catheter in more than twenty-four hours, at which time it should, in my opinion, be withdrawn and cleaned, then introduced again, and if there is the slightest appearance of roughness on it, a new one should be passed, as I have known much injury to result from retaining a cracked one in. The second suggestion I would offer is, that we should be careful as to bleeding from the arm, especially if the patient be at all advanced in life. I should say, in almost every case

the repeated local abstraction of blood would be much more efficacious, and at the same time would not produce that extreme debility that is in old people, the result of copious general bleedings. The next disease that claims our attention, is

SCIRRHUS, OR CANCER OF THE PROSTATE.

This malady formerly used to be considered of frequent occurrence, as all the enlargements of this gland, now named chronic, were supposed to arise from a cancerous affection of the prostate; subsequent experience and inquiry have, however, proved the two maladies to be perfectly distinct. With regard to the

Symptoms of Scirrhus of the Prostate,

The reader will readily imagine that the principal symptoms will be such as would arise from an enlargement of the prostate from any other cause;

thus then there will be difficulty of passing water, and, in short, all those symptoms that will be found mentioned as indicating the existence of chronic enlargements of the prostate, from which malady it will be difficult to distinguish it; fortunately, however, although there may exist great uncertainty, preventing our clearly ascertaining whether the enlargement of the prostate and consequent derangement of the urinary functions arise from true scirrhus, or the simple chronic enlargement of that gland, the modes of treatment are essentially the same; I need, therefore, merely refer my readers to the section on the "treatment of chronic enlargement of the prostate."

Having thus, as briefly as the importance of the different subjects would allow, noticed the diseases to which the prostate is exposed, and their treatment, it only remains, before proceeding, to consider that malady of this gland, which it is the more immediate object of this treatise to discuss, to state that the ducts of this gland are not unfrequently found enlarged. When this is the case, it is usually the result of some obstruction to the free egress of the urine, such as

stricture of the urethra. In the natural state, these ducts or openings are scarcely visible, but they are frequently found enlarged to such an extent as readily to admit a crow quill. I am not aware of any treatment by which this defect can be removed, beyond that of the removal of the cause, viz. the urinary obstruction.

CHRONIC ENLARGEMENT OF THE PROSTATE GLAND.

PRELIMINARY OBSERVATIONS.

CHRONIC enlargement of the prostate gland is one of the most serious maladies to which the urinary organs are liable, not so much, however, as regards the gland itself or its immediate results, as in consequence of the severe and fatal diseases it for the most part ultimately causes in all or some one of the organs of urinary secretion and excretion. Strictures of the urethra, it is true, and other diseases of the genito-urinary organs, occasionally produce evils no less fatal; yet as our means of cure are more numerous and certain in these cases than those we at present possess for the relief or cure of enlarged prostate and its consequences, so may this malady most properly be considered the more formidable, especially as it generally, if not always, occurs at the decline of life, when consequently the powers of the constitution are

to a certain extent lost, and there is therefore less capability of bearing up against the severe local and general constitutional irritation which is sooner or later induced if the progress of the malady be unchecked, or if it be injudiciously treated.

Enlargement of the prostate is a malady of frequent occurrence, though it rarely makes its appearance until an advanced period of life; in fact, it may be termed a disease of old age. It has this in common with stricture, that it equally impedes the passage of the urine, and its progress is no less insidious; but here the resemblance ceases. In the former, however advanced or of long continuance, we have, in nearly every instance, the power of curing the patient; in the latter, our power does not extend beyond the use of palliatives. At the same time, it should be a source of gratification to the surgeon, as of consolation to those who may have the misfortune to labour under this severe infliction, to know that by judicious treatment it may be so far controlled as to enable the patient to pass the remainder of his life, if not in perfect ease, at least in comparative comfort.

Enlargement of the prostate, as before remarked, obstructs the flow of urine in an equal degree as stricture, for which, in some cases, it has been mistaken. This error, for which there is no excuse, is only another consequence of a want of experience on the part of the surgeon.

Enlargement of the prostate appears to be more the result of changes incidental to the frame of man, as he advances in life, than of any disease of the urinary canal. Though these may hasten and assist its development, yet as we find it equally in persons who have never suffered from any previous disease of the genito-urinary organs, nor have ever been guilty of any excesses or irregularities, we should not be justified in attributing it to any of those causes solely, but must regard it rather as the result of changes natural to the human body as it advances towards decay.* In this opinion we are fully borne out by the change of structure, which, in a greater

* The late Dr. Fothergill, who died from the effects of this disorder, is said never to have had sexual intercourse in his life, or any previous malady of the urinary organs.

or less degree, is found to take place in the human frame as man advances to old age.

I cannot close these observations without saying a word or two on the much debated question, whether by medicinal or surgical means we may, if not cure, at least prevent the increase of the malady. I am aware of the almost universal belief, that medicine exercises no influence, either as a curative or preventive agent, in this disease. Though I am disposed to admit the first part of this proposition, after the complaint is fully established, the other I cannot so readily assent : to encourage such an opinion would be to discourage science, and to substitute apathy for that persevering and indomitable activity by which so many important discoveries have been made even in our own times. Various diseases which were formerly considered beyond human skill, are now, by the bold and indefatigable spirit of inquiry, which is the valuable characteristic of the present age, proved to be curative. I therefore repeat that this notion should not be encouraged, were it only for its tendency to produce an indifference detrimental to the advancement

of knowledge. For my own part, I am persuaded I have, in numerous cases, prevented the full development of the disease. In consequence of this conviction, I feel warranted in strenuously recommending that, instead of—as too generally occurs, when consulted in these cases—merely mournfully shaking our heads and emphatically exclaiming, “*Oh! enlargement of the prostate! old man—nothing to be done—no means of cure!*” and thus creating an erroneous impression, calculated to produce a fatal despair in the patient’s mind, and thereby preventing him from availing himself of the means, limited though they be, of relief, which he would otherwise obtain; in these extreme cases, we should rather the more anxiously seek out for remedies for the cure, or at least the relief, of human sufferings; and at worst, if we do no good, we can do no harm, if we are, as we ought to be, careful and judicious in the selection of the remedies we employ.

Symptoms and Consequences.

In the section on the Anatomy of the Prostate, I have stated that this gland is situated at the neck of the urinary bladder, and the commencement of the urethra, or urinary canal; that in its natural shape it somewhat resembles a chesnut, and that it is divided into three lobes, two being placed laterally, and one behind and below the urethra. This, called the middle lobe, is most frequently enlarged, notwithstanding the assertions made to the contrary by some authors. When it is, it occasionally, by projecting into the bladder, gives rise to the disease known by the name of uvula visicæ, at the same time the latter malady has been found independent of any enlargement of the prostate. When, in addition to the enlargement of the prostate, there is also produced this malady, or where it arises as a primary affection, its effects are equally distressing, for, upon the patient attempting to void his urine, the tumour falls forwards against the orifice or outlet of the bladder, which it

thus closes, thereby producing great distress, and in an equal degree obstructing the expulsion of the urine, or the introduction of the catheter, the point of which has in some cases been entangled in the tumour to the no small alarm and agony of the patient, and bewilderment of the surgeon.

From the situation which the prostate occupies in connexion with the outlet of the bladder, and the commencement of the urethra, it is at once evident how seriously when swollen it must interfere with and obstruct the free passage of the urine. This obstruction, however, does not, as in stricture of the urethra, arise from a contraction or thickening of the surface of the membrane of the urinary canal at the seat of the disease, but from an approximation of its sides from the protrusion into the urinary passage of the swollen gland, or one of its lobes. When it swells, therefore, it does not lessen the surface of the urethra at the part, as before observed, like a stricture; on the contrary, it rather increases it, but the sides of the passage are compressed together, thereby producing an obstruction to the passage of the urine, which quickly

irritates the bladder, and brings on all the symptoms in that viscus that usually arise from a stricture or stone.*

The prostate is sometimes enlarged altogether; in this case the urethra is pushed up and elongated, sometimes to the extent of two or three inches: occasionally the swelling is on one side, then the passage is twisted laterally, and lengthened; and again it may be enlarged at that surface which is towards the bladder, in which case it impedes the instrument at the entrance of that organ, and lastly, sometimes in the progress of the enlargement, the prostate becomes irregular, and a winding passage is formed through the prostatic portion of the urethra. This increases alike the difficulty to the patient of making water, and to the surgeon of introducing an instrument.† In these cases, when we are obliged to use an instrument, the flexible gum catheter will be found to answer better than those of silver, or any other

* Hunter on Venereal Diseases.

† Baillie's "Morbid Anatomy."

metal, in consequence of their capability of yielding and adopting themselves to the tortuous course of the passage.

Enlargement of the prostate is so gradual and insidious in its progress, that in very many cases it attains considerable magnitude before it is discovered; and when its existence is ascertained, it is more from its effects than from any severe symptoms in the gland itself, which is now generally admitted not to be so sensitive and irritable as was formerly imagined from the mistaken idea that all the painful and distressing symptoms of its enlargement had their origin in the gland itself, instead of in the contiguous parts: thus the urgent symptoms are now known to arise from the inflamed state of the membrane covering the gland at that portion of the urethra designated prostatic, and which inflammation is caused and kept up by the pressure of the enlarged and indurated gland behind it; this inflammatory action quickly extends itself to the bladder, which in consequence becomes painful and irritable, hence arises frequent desire to urinate; these continued calls

aggravate the original inflammation by the frequent straining and stimulus caused by the urine as it passes through the inflamed prostatic portion of the canal, the anterior portion of which, as the disease advances, becomes also inflamed. This affects the orifices of the seminal vessels, keeping up in that portion of the perinæum so much sensibility that the patient is unable to sit down without great uneasiness. As a further proof, if any be wanted, that the distressing symptoms observed in this disease arise solely from its effects on the surrounding parts and organs, rather than from any particular sensibility of the gland itself, it may be mentioned that in many cases it has been perforated in attempts to pass the catheter without having produced any increased sufferings, and has even not been discovered till death, and that long after the accident.

The circumstances by which the existence of the disease is first detected by the patient or surgeon, are some such as the following:—An elderly gentleman has observed that for a longer or shorter period the power of voiding his urine has gradually decreased,

and that instead of his being able to eject it to some distance from him, it falls perpendicularly from the orifice of the urethra. From the mistaken notion, however, that it is the result of the natural debility attendant on old age, he pays no regard to these warnings, when upon a sudden he is seized with a retention of urine. Impelled by the most painful and urgent desires, he makes repeated and fruitless attempts to void the contents of the bladder, until at length his excruciating agony of mind and body becomes intolerable, and he summonses medical aid. When called to a patient in this situation, we usually find that a day or two before the attack he had been exposed to cold, or had got his feet wet, or had fatigued himself with unaccustomed exertions, or had been guilty of some irregularities in his mode of living, or (what is worse than all at his time of life) had contracted a gonorrhœa. This last disease all old men should take especial care to avoid, as also the disgusting habit of toying with females, in which too many of them indulge, although the power of sexual intercourse has long left them. As the derangement and excitement arising from these causes are fre-

quently most injurious, I would fain hope that these remarks may induce those aged debauchés, who indulge in such vile practices, to discontinue them, for the only reason likely to influence their conduct, namely, their own future comfort and welfare.

By the interposition of surgical or medical aid, the attack of retention may be removed, and in a few days the patient may deem himself recovered; it is, however, at best, but a fallacious notion, and he is constantly in danger of a renewed attack, which, if even he escape, does not free him from dangers no less serious and vital, although to himself less apparent, which are gradually indeed, but surely laying the foundation of irreparable disease. The urine is by degrees passed in a diminished stream, there is more straining necessary for its evacuation, and a longer time is required for the passing of a smaller quantity; still the water passes, and the patient, relieved from the fear and agony of a retention, lulls himself into a false security. The malady unheeded advances; the stream of urine is still more diminished, or has totally ceased, the water being

only passed in drops, a tablespoonful at most being voided at one time; the intervals are shorter between each successive call to urinate, which is now constant, accompanied by the most acute pain along the whole course of the urethra, and especially in the glands penis. The rectum also, from its intimate connexion with the urinary organs, and the consequent sympathy that exists between them—the derangement of either quickly affecting the due discharge of the functions of the other—becomes the seat of additional disease, and the source of increased suffering to the hapless patient. Thus the enlargement of the prostate, projecting towards the rectum, impedes the passage of the fæces; at other times, the violent straining necessary for the expulsion of the urine causes their involuntary discharge, and the patient is consequently compelled to visit the closet upon every occasion for the passage of the urine. Piles, prolapsus ani, and a long train of evils equally disgusting, painful, and dangerous, are also the attendant miseries upon this disorder. In this stage of the disease, the bladder is never emptied—occasionally the urine dribbles from the patient, especially

when he is in bed—yet, not unfrequently, the patient, still deceived by the water that is passed, refrains from seeking surgical aid. The urine, which had been clear, now becomes turbid and offensive, from the length of time that it is retained in the bladder, which viscus, in consequence of the difficulty experienced in evacuating its contents, is excited to violent and frequent action; its muscular coat becomes consequently much stronger and thicker than natural, and in some cases, as a further consequence of this undue straining and violent action, pouches are formed by the protrusion of the inner membrane of the bladder between the fasciculi of the fibres of its muscular coat. This is caused by the pressure of the urine against the inner membrane of the bladder, from the powerful muscular contraction of that organ, in its endeavours to free itself from the accumulated water. Nor are these the only attendant evils on the chronic enlargement of the prostate, for the internal mucous membrane of the bladder, irritated by the continued calls to urinate, and the constant state of distension in which it is kept from the accumulated and highly stimulating urine,

assumes a chronic form of inflammation. This inflammatory action quickly causes a secretion from the mucous membrane of the bladder of a thick tenacious mucus, which imparts to the urine a highly offensive ammoniacal smell; this secretion, retained in the bladder and unable to escape, becomes in its turn an additional source of irritation, giving increased life to the morbid action which had caused its secretion—thus does one evil become the fruitful source of aggravated mischief. Some portion of this secretion is usually voided with the urine, and when it is, it sinks to the bottom of the vessel, to which it clings with great tenacity; but still there remains behind fresh source of disease and suffering, for small earthy deposits are formed in the alkaline mucus, which, instead of being expelled by the urethra, fall to the bottom of the residuary urine in the bladder; these increasing in size, and ultimately becoming cemented together, lay the certain foundation of a calculus in that organ.* Ulcerations of the mucous membrane of the bladder are also occasionally the consequences

* Brodie's Lectures.

of long protracted or neglected enlargement of the prostate generally, but not invariably, at that portion where the enlargement projects into it. The ureters also, from the distension of the bladder with the urine, are unable to empty themselves of that secretion: thus they become distended and enlarged, frequently to an enormous extent. Nor do the kidneys escape the devastating ravages of these accumulated evils. The pelvis of one or both kidneys, and their processes or infundibulæ, become inflamed and enlarged. As the disorder progresses, the glandular structure of the kidneys becomes involved in the mass of disease, and abscesses are not unfrequently the result.

Such then is the horrible and devastating progress of this disease. At length the unfortunate patient, should he not earlier have succumbed to his fierce and unrelenting disorders, worn out by these mingled diseases, sinks under their accumulated powers, and death happily closes the hideous scene, relieving alike the patient from his direful sufferings, and those around from the pain of witnessing them.

TREATMENT OF CHRONIC ENLARGEMENT OF THE
PROSTATE GLAND.

From what has been said in the foregoing remarks, it will appear that it is not so much the consequences of chronic enlargement of the prostate, so far as that gland is itself affected, as from its effects on other important organs and functions, that this malady is to be dreaded.

Thus the prostate might be enlarged, and the chronic and indolent tumour it would form be of no moment or inconvenience, did it not from its situation exert a powerful influence in impeding the due discharge of a most necessary, indeed vital function, viz., the excretion of urine; thereby quickly producing serious derangement of the whole urinary organs.

Nor is it in the urinary organs alone, as we learn from the previous remarks, that we find its ill effects;

for, from the proximity of the prostate to the rectum, it frequently produces equal evils in that part, by the derangement it causes in the functions of the intestinal canal, and thereby rapidly disordering the digestive organs, and consequently the whole system, and thus, as it were, adding fuel to fire, for the disorder of the general health reacts on the local and primitive malady, and thus are increased and multiplied the patient's sufferings and our difficulties; nor do these latter cease here, for we are unable in these cases to follow the first and main principle which should govern all our remedial measures in the cure of the various diseases to which man is liable, viz., the removal of the exciting cause to them. Hence, then, whilst we should not be indifferent to any means which we may think calculated, even in the slightest degree, to diminish the original cause of the serious evils, we may find yet our principal aim (from the nature of the disease) must be directed towards lessening and checking their further progress; thus if we are consulted in the earlier stage of the disorder, when, in addition to the difficulty of

urinary evacuation, there be merely some slight inflammatory affection of the prostatic portion of the urethra and neck of the bladder, arising from the pressure of the enlarged gland, or one of its lobes, we should endeavour at once to arrest the progress of the inflammatory action which has been excited; for it is from a continuance of that secondary disease (so to speak) that we have as much, if not more, to fear than from the primitive one: to this end then we should first employ the catheter, for although at first sight this may appear more likely to increase than diminish the inflammatory action existing in the prostatic portion of the urethra and at the neck of the bladder, yet such will not be the case.

For experience has taught us that more evils are to be dreaded from the continued teasing and consequent excitement which is kept up in the bladder and urethra, from the ineffectual attempts of the former for the expulsion of its contents (as we find in these cases, that although urine is passed, yet is the bladder never emptied), than the increased tem-

porary excitement caused by the catheter. Patients in these cases, because they pass a certain quantity of urine, are too apt to imagine that they completely empty their bladders, and that therefore the use of the catheter is unnecessary; this circumstance, combined with the momentary pain resulting from the introduction of the catheter, often renders them averse to its use, and at the same time they are, or affect to be, incredulous when you inform them, that so far from their bladders being emptied when they passed their urine, they have only voided perhaps one half of its contents; if they still doubt, it is easy to convince them of the correctness of our assertion by the introduction of the catheter, when the urine that will then escape will be to them a sufficient confirmation. Thus then we must be firm in insisting upon a regular use of the catheter, for, without we do this, all other means which we may adopt will be useless; at the same time we should recommend the local abstraction of blood, and the warm hip-bath night and morning; and after two or three local bleedings, we may employ with advantage an ointment composed of iodine, camphor, &c., which should be rubbed on

the perinæum night and morning. The bowels must be kept freely open by the administration of mild aperients; in some cases, however, active aperients, composed of colocynth and aloes, prove beneficial.

If the pain and irritation be severe, we should administer at bed-time an anodyne enema. The patient should as much as possible keep in the horizontal posture; his diet should consist principally of milk and light puddings, and of course he should avoid all spirits, wine, and beer. By perseverance in these means we may check the progress of the disease, and by careful watchings prevent its recurrence. Unfortunately, however, these opportunities are rare, for it is but seldom that surgical aid is sought until the disease has been some time established, when consequently there is considerable chronic inflammation existing in the urethra and bladder, as well as much irritation and excitement in the contiguous parts. When this is the case, the means above recommended must be perseveringly used; and should there be any muco-purulent secretion from the bladder, we should, in addition to the

regular use of the catheter, inject into the bladder every night and morning warm water, from which I have in very many cases found considerable benefit. Indeed by this simple remedy I have often been enabled to relieve my patients from most serious as well as painful symptoms, as the following case will show:—

I was consulted by an elderly gentleman, who had for the last four years prior to his calling on me laboured under the usual effects of enlarged prostate gland. The catheter had been occasionally but not regularly used; leeches had been also applied; and, in short, the usual remedies that are employed in such cases; but with only partial and temporary relief: latterly the urine had been much loaded with muco-purulent discharge, which, in long protracted, or severe cases of this kind, is generally found; a variety of medicines, such as buchu, uva ursi, cubebs, balsam of copaiba, &c., had all been tried with a view, but in vain, of arresting the morbid secretion; indeed, so far from proving beneficial, he thought on the contrary that they were injurious.

Nor is it unlikely, in my opinion, from what I have observed in similar cases, that he was correct in the judgment which he had formed, as I have myself frequently remarked the like results to have followed the administration of these medicines. It appears to me that it is not difficult to explain why this is the case, for all these medicines are more or less powerful diuretics; hence, by the increased secretion of urine which they cause, they render more urgent and frequent the desire and necessity for its expulsion, and thus this increased demand for exertion in the bladder and organs of urinary excretion add to the already existing irritation; and nothing in my opinion is so erroneous as the too prevalent notion that diuretics are beneficial in this class of disease, and I have frequently been both pained and surprised at witnessing how often they are recommended by men whose well-earned reputations would have led me to have expected a much more rational mode of treatment, and it is inconceivable to me upon what grounds they can justify the administration of such medicines. An inquiry into, or a moment's consideration of, the nature and symptoms of this disease, would at once,

I should imagine, prove not only the inefficiency, but also the absurdity of this practice.

For in the malady under consideration, there is no want of urinary secretion, but a want of power to expel that which is even by the natural action of the kidneys secreted; consequently, whilst the increased secretion of urine resulting from the administration of diuretics serves but to add to the already superabundant water in the bladder, it affords no assistance to that organ in the expulsion of its contents. It is true that frequently the patient passes more urine, and with greater force, but this is only in consequence of the increased body of water which the bladder has to act upon, and there is, notwithstanding the greater increase in the quantity of water passed, as much and even more in proportion left in the bladder than there would have been had these medicines not been given: so that their only effects may be said to be to deceive the patient and the surgeon, by inducing an erroneous belief, that from the increased quantity of urine, as also power with which it is voided, a favourable change has taken place in the disease, that

the bladder empties itself, and therefore that the remedies are beneficial. Thus they are led to persevere in a mode of treatment, by which they most seriously hasten the progress of the disease. For my own part, I should, of the two, recommend that we should rather employ such remedies as would diminish and not increase the urinary secretion; and indeed, if it were not that a suppression of the urinary secretion would be dangerous to life, I should conceive that its total stoppage for a short time would be beneficial, from the state of quietude which the inflamed organs would thereby experience. This, however, of course is impossible; therefore, whilst I would, on the one hand, desire such an amount of urinary secretion as is necessary for the general health, I would most certainly, on the other, do nothing to augment it. If a patient had a severe inflammatory disease of the eye, and we were told that he had been recommended by his medical attendant to go with it not only uncovered, but also to expose it to the most dazzling light, and further, perhaps, to read for hours together with it, we should exclaim in no measured terms, I fancy, against the cruelty as well as bar-

barity of the advice; yet in recommending these diuretic and stimulant remedies, we are ourselves guilty of equal cruelty and absurdity. But to resume: as I was stating, all these things had been employed without relief to the patient. I at once directed him to discontinue all medicines, with the exception only of such as were required to keep the bowels in a proper state, and, by the regular use of the catheter night and morning with the warm water injections, I very quickly had the satisfaction of relieving him from all his most urgent symptoms; and finally, by the steady perseverance in the catheter, I had the happiness of perfectly restoring him to health.

RETENTION OF URINE FROM CHRONIC ENLARGEMENT OF THE PROSTATE.

As before remarked, a total retention of urine is occasionally the result of chronic enlargement of the prostate; when it is, the first step to be taken is to draw off the urine with the catheter. If this be not done at once, the continued straining, as I have

before had occasion to observe, when speaking of the treatment of retention from acute prostatic inflammation, caused by the fruitless attempts to urinate, will increase the already existing irritation, and not improbably produce severe inflammatory symptoms. The urine, therefore, should, I repeat, be drawn off immediately, and as in these cases we find that not unfrequently the bladder, after an attack of retention, loses for a time its contractile power, it has been by some recommended that the catheter should be allowed to remain in; but in this opinion I do not concur myself, as in almost every case that I have seen, I have found that this practice, when it has been pursued, has aggravated the patient's sufferings, by the irritation it has caused in the neck of the bladder, and indeed of the whole of that viscus; so that, although there has been little or no urine in it, yet the patient has experienced the most intolerable and constant desire to urinate; in short, it has caused the most severe irritation of the bladder; nor does this mode of practice tend to expedite the cure, as will be presently seen, even if it should not produce these bad effects.

I have witnessed several cases where, when this mode of treatment has been persevered in, notwithstanding the patient's sufferings, ulceration at the neck of the bladder has been induced, accompanied by a most profuse secretion of muco-purulent matter from the whole mucous membrane of that organ.

In the case of a gentleman who came from the country to consult me, and who had had two or three attacks of retention of urine, the last of which had been treated in this manner, the catheter having been constantly kept in for nearly two months—all this time he was confined to his bed, until the horrible stench arising from the clothes (for do what he would he could not keep them clean), combined with that from the urine, and from the matter discharged with the water, had become at last so intolerable, that he determined at all risks to withdraw the instrument, rather than any longer submit, not merely to the pain, but to the disgusting filth, to which he was so long subjected. Upon his first placing himself under my care, he could not void so much as a drop of water, though tormented by a strong desire to pass

it. He was compelled in consequence to pass the instrument four or five times a day, and as many during the night. If he happened to omit this too long, the uniform result of the omission was an attack of the most violent and painful spasms. The urine was loaded with a muco-purulent secretion from the mucous membrane of the bladder. From the long use of opiates, the stomach and bowels were in a frightful state of derangement, so as to require the most powerful medicines to operate on them. In short, his whole system was deranged from the effects of the disease, or more correctly speaking, from the effects of the treatment to which he had been subjected.

I immediately set to work to restore the regular action of the bowels; I diminished the strength of the opiates; visited my patient night and morning (he in the interval passing the catheter, if necessary); drew off the urine, and washed the bladder out with warm water. After I had cleansed the bladder as perfectly as possible, I allowed a small quantity of the warm water to remain in. Pursuing this mode of treatment

for three weeks, I entirely subdued the muco-purulent secretion, as also all the more violent symptoms. The bowels resumed their regular action, or were easily excited by mild aperients. The opiates were discontinued. The water now passed freely during the day. Instead of the patient's passing the catheter eight or nine times, as had been occasionally done, in the course of twenty-four hours, it was only necessary to pass it once or twice, but more generally thrice, and this always during the night, being able during the day to relieve the bladder without it. He was also enabled to ride out in his carriage, and after he had been in London only two months and a half, he was in fact restored to a state of comparative comfort. I shall now revert to the treatment of retention of urine from enlarged prostate. The urine having been drawn off, and the catheter withdrawn, apply leeches to or upon the perinæum, sponge the parts frequently with warm water, or use the hip-bath two or three times a day; open the bowels by mild aperients, and, afterwards, if there be much pain, administer anodyne enemata, or suppositories the patient remaining all the time in a horizontal position, with

the hips raised. If, after these means have been employed, the retention continues, the catheter must be introduced as occasion requires; and where it is of long continuance, it were as well if the patient were instructed to pass it himself, more especially if he reside in the country, and at a distance from his medical attendant. This I recommend the more strenuously, as I have known much inconvenience and even danger to ensue from the length of time the patient has been obliged in this case to wait before surgical aid could be procured. At the expiration of three or four weeks, the patient, if properly treated, will, in most cases, recover the power of emptying the bladder. In some few cases, however, this power is never retained; and when these occur, we generally find that the catheter has been constantly kept in, instead of being introduced only when the bladder required to be emptied; we have here a strong additional reason for not keeping the instrument in.

We find a further confirmation of this in the results of various trials made by the late Mr. Hey, of Leeds, for the express purpose of ascertaining the compara-

tive merits of the two modes of treatment. Those results showed that those patients who had the catheter only introduced when it was necessary to relieve the bladder (say morning, noon, and night), thrived best, and recovered the power of expelling the urine soonest. My own experience enables me to confirm this ; and I therefore recommend that the instrument be employed as little as possible. Also that when any inflammatory symptoms, which may have occurred in the first instance, are completely subdued, the patient should be encouraged to attempt to pass his water himself; and if, during the day, he can void a fair quantity, let the instrument be passed only on his going to bed, and the consequence will be that he will have a good night's rest. In short, the grand object of our treatment should be to assist the bladder in recovering its power by allowing it to act; whereas, by passing, or keeping in, the instrument on all occasions, the bladder will, in the end, lose its contractile power.

Thus then to sum up briefly, the mode of treatment I would recommend to be adopted in these cases, is,

first, the steady use of the catheter, with or without the injection of tepid water according as there exist a muco-purulent discharge or not. At the same time I must state, that even when there has been no discharge, I have employed the injection with advantage. *Secondly*, the application of the cupping-glasses, or leeches, to the perinæum; this, however, must only be done in the earlier stage of the disease, and in almost every case should not be attempted when the malady has so far advanced as to cause a mucus discharge from the bladder. *Thirdly*, having emptied the blood-vessels by the local abstraction of blood, we should direct the patient to rub on the perinæum night and morning some stimulating ointment. *Fourthly*, the regular use of the warm hip-bath. *Fifthly*, a rigid attention to the state of the bowels; and, *sixthly*, the use of anodyne enemata at bed-time.

This then is the method of treatment I would advise; but of course there will necessarily arise in practice numerous and varied cases, whose individual peculiarities would require a modification in the treatment; therefore in this, as in every other disease

which we are called upon to treat, we must think for ourselves, and whilst we, on the one hand, pay a due regard to the experience and recommendation of those medical men who have gone before us in the fields of science, we should not, on the other, blindly *pin our faith to their sleeves*, or without due consideration follow in their steps. To the laggard and plodder, it may be an easy way to follow in the beaten track, but to the lover of his profession it will not be sufficient to satisfy his desires and wishes for the acquisition of knowledge, as well as for the relief of suffering humanity, thus to confine his means of overcoming disease to the limit of others.

Therefore, I repeat, in these cases we must not unfrequently rely solely on our own judgment. Thus, for instance, I have frequently in very obstinate and protracted cases of disease of the internal mucous membrane of the bladder, resulting from enlargement of the prostate, employed most powerful astringent injections, and that too with the most happy results. Indeed, I fear that were I to state here the strength of the injections, I should raise the fears of the timorous,

as well as the doubts of the incredulous. I shall therefore content myself with having mentioned this simple fact, merely observing in addition that it was of course only by slow degrees, and after repeated minute inquiries, and carefully-conducted experiments, that I learned I could do this with impunity. One or two of the cases will illustrate this point, and indeed it may be as well that I now cease any further remarks on the treatment of the chronic enlargement of the prostate and its consequences, referring my reader to the various cases in the Appendix, from which he will learn anything further I have to offer.

A P P E N D I X,

CONTAINING

C A S E S

ILLUSTRATIVE OF THE SYMPTOMS, CONSEQUENCES
AND TREATMENT

OF

THE CHRONIC ENLARGEMENT

OF

THE PROSTATE,

WITH

PLATES SHOWING SOME OF THE MORBID APPEARANCES
THAT ARE COMMONLY FOUND IN THAT GLAND,
THE BLADDER, URETERS, AND KIDNEYS.

IN the following Cases and accompanying Plates, I have thought—as my object is not merely to illustrate the *Symptoms and Treatment of the Chronic Enlargement of the Prostate*, but also the morbid appearances that are found in that gland, the bladder, ureters, and kidneys, from its enlargement—that I should render the subject more interesting by selecting some specimens from other authors, in addition to those which are the result of my own observation, especially as regards the morbid appearances; because in a private practice, however extensive, the opportunities of post-mortem examinations are limited, by the aversion the surviving relations too generally evince to them; and which feeling, however for the sake of science we may deplore, yet it is our duty as men to respect: thus I have availed myself of the researches of Morgagni, Hunter, Baillie, and Bell.

APPENDIX.

CASE I.

Case of Enlargement of the Prostate, causing Retention of Urine, relieved by the Catheter, but finally terminating in Death; with an Account of the State of the Bladder and Prostate, as seen upon the post-mortem examination. From MORGAGNI de Sedibus, et Causis Morborum.

CIVIS meus, vir Patricius, H. M., annos natus amplius sexaginta, quadrato corpore, et robusto, facie rubente, habitu ad obesum inclinante, herniosus, adolescens virulenta gonorrhœa laboravorat, semper vero multum, sæpe etiam merum biberat. Cum multum quoque, et creberrime mingeret, vix anno ante levi quodam retentionis urinæ principio tentatus

fuerat. Anno autem 1710, iv., Nonas Martii quasi repente omnino suppressa est. Affinis ejus medicus clysteribus, balneis, sanguinis ex hæmorrhoidibus missione, remediis etiam quæ, tunc simul adstrictam, alvum moverent, auxilium afferre fatagebat ; sed incassum. Itaque demum catheterem immitti jussit : quod non ita difficulter et tum ; et postea peractum est. Singulis autem immissionibus septem fere urinæ libræ, etsi modicum quod potaret, daretur, primis quidem, diebus ex quo illud cœpit fieri, educebatur. Intermediis ; nam dies vixit circiter quindecim ; paulo pauciores ; ultimis rursus ad septem. Et primis quidem diebus aliquem ad mingendum sentiebat stimulum, nullum intermediis, rursus aliquem ultimis. In urinis interdum aliquid sanguinis conspectum est, interdum quædam parva quasi membranarum tenuium frusta. Postremis diebus alterias humeri dolor accessit ; febris penultimo : novissimo, cum post eductum mane lotium, argentea fistula extraheretur, animadversum est, tinctam esse ; id quod antea acciderat nunquam ; haud secus ac si in vitriolico humore fuisset. Eo die ad vesperam inclinante, cccc rigor, et tremor, calente tamen cute ; hinc pulsus obscuratio ;

quo iterum se non sine intermissionibus prodente, alter accidit tremor: hora autem quinta noctis mors.

Cadaveris dissectioni, rogatus, cum aliis Medicis interfui, postridie sub primam noctem, quo tempore ab eo qui medicinam fecerat, a chirurgo, ab aliisque, eadem omnibus confirmantibus, ea quæ modo sunt scriptæ, accepi. Peritonæum vidimus, ad hypogastrium præsertim, livens, intestina autem ferme sublivida: in summo distentæ vesicæ fundo exterius vasa sanguine turgida, interiorem tunicam hic illic rubescentem: tunicas autem omnes crassiores multo quam æquum esset; itaque vel emisso lotio, majorem quam solet, magnitudinem vesica retinebat. In eo priusquam totum emitteretur, grumum non ita parvum animadvertimus libere natantem, qui nihil magis quam semilaceram hydatidem, referebat; mihi vero attentius examinanti tenuis polyposa concretio visus est, quæ membranulas in se convolutas, et concidentes mentiretur: ejusdemmodi autem parva illa fuisse frustra quæ in extracta urina interdum apparuissent, ii qui viderant affirmabant.

Cum igitur causam hujus suppressionis inquire-remus ; ad imam vesicam se se obtulit. Prostata glandula, præter naturam tota extumescens, eaque duritie prædita, ut quasi ex cartilaginis, et ligamenti commista substantia constare secantibus videretur. Alba erat nisi quod locis quibusdam, præsertim vero in utraque superficie, a stagnante in vasis sanguine nigricabat, idque a dextris magis qua ex parte scrotum magna distendebat enterocele.

In hac quæ modo proposita est, suppressionis causa omnes qui aderamus, facile confensimus tum quia alias quoque a præstantibus Viris, ut post dicitur, eandem inventam, agnitamque fuisse, non ignorabamus, tum quia proclive erat intelligere, cum tumor, et durities Prostatae incepit, cœptum quoque ægrum esse principio aliquo retentionis urinæ tentari, cum vero demum usque adeo tumor auctus fuerat, ut repentina accedente sanguinis per eam glandulam, circumque ipsam majori motus tarditate, meatus per eam ductus, non nisi immisso catheteris solido corpore, satis urinæ patere posset hanc amplius nequiasse per se sibi exitum aperire.

TRANSLATION OF CASE I.

A FELLOW-CITIZEN of mine, of noble birth, who was more than sixty years of age, of a square and robust body, had a red face, a habit inclining to fatness, and was troubled with a hernia; had laboured, when a young man, under a virulent gonorrhœa, and had always drunk very freely, and often even of pure wine.

Though he also made a great quantity of water, and very frequently, yet the year before he had been attacked with a kind of slight retention of urine, and in the year 1710, on the 4th of March, it was almost suddenly suppressed.

A physician, who was his kinsman, took great pains to administer relief by clysters, baths, and blood-letting from the hæmorrhoidal veins, and even by such remedies as increased the intestinal discharges, which were at the same time diminished, but to no purpose. He therefore at length ordered

the catheter to be introduced, which was done without great difficulty, both then and afterwards; and at each time of introducing it, almost seven pints of urine were drawn off, on the first days from the time it began first to be introduced, notwithstanding he had but little given him to drink.

On the intermediate days, for he lived in all about fifteen, the quantity was somewhat less; and on the last days, the quantity again amounted to seven pints; and on the first days, indeed, he perceived some inclination to make water, as he also did on the latter days; but none at all in the intermediate days. A little blood was sometimes seen in the urine; and sometimes some small pieces of membranes as it were; on the last days, a pain of one shoulder came on; a fever on the last but one; and on the last, in the morning, when the catheter was withdrawn, after taking away the urine, it was observed to be tinged, which was a circumstance that had never happened before, just as if it had been dipped in a vitriolic fluid. On that day, when the evening began to draw on, behold a rigor and a tremor came on,

though the skin continued warm ; and from hence the pulse was obscured ; and as soon as it began to be discovered again, not without intermissions, another tremor came on ; and at the fifth hour of the night the patient died.

Being asked to attend the dissection of the body, I attended, together with other physicians, about the beginning of the night of the following day, at which time I received the account I have given you from the physician who had attended the patient while living, and from the surgeon and others, all of whom confirmed the relation.

We found the peritonæum to be livid, particularly in the hypogastrium ; and the intestines, in general, to be of a livid hue : in the extreme part of the fundus of the distended bladder, the blood-vessels were externally turgid with blood, and the internal coat was reddish in several places ; but all the coats were much thicker than they naturally are ; for which reason the bladder, even when emptied of its urine, retained an unusual magnitude.

Before the whole of the urine was discharged from that cavity, we observed a coagulum, of no very small size, to be swimming freely about, and to resemble nothing more than a semi-lacerated hydatid; but when I examined it more attentively, it seemed to be a slender, polypus concretion, which resembled small membranes involved one in another and collapsed; and those who saw it affirmed that it was of the same kind with those small fragments which had sometimes appeared in the urine after having been drawn away.

When, therefore, we came to inquire into the cause of this suppression, it appeared to be at the lower part of the bladder; that is to say the prostate gland was universally swollen out in a preternatural manner, and had attained to such a state of hardness as to seem, to those who cut into it, to consist of the substance of cartilage and ligament mixed together as it were.

This tumefied gland was of a white colour, except that in some places, but particularly on both surfaces,

it was blackish, from blood stagnating in the vessels ; and that most on the right side, where the scrotum was, in part, distended with a large enterocele.

In this cause of suppression, which has been just described, all of us who were present easily agreed ; not only because we were not ignorant that the same had been met with at other times also by eminent men, and acknowledged, as will be said afterwards, but also because it was easy to conceive, that when the patient began to be affected with a tumor and hardness of the prostate, he began also to be attacked with the beginning, as it were, of a retention of urine ; and that when the tumor was at length increased to such a great degree, an unusual slowness of circulation, through this gland, and round about this gland, coming suddenly on, the canal which passed through it could not be sufficiently opened for the discharge of the urine, unless by introducing the catheter, which was a solid body.

CASE II.

Enlargement of the Prostate Gland—the Catheter thrust into the Tumour—Death.

I WAS requested to visit G. W., aged 75. Upon my arrival, I found him in articulo mortis. I learnt that for the last few years prior to my seeing him he had suffered under great difficulty in passing his water; indeed, to such a degree, as to be often compelled to use the catheter for its evacuation. For the last twelve months the difficulty had increased, both as to the voiding of the urine and the introduction of the catheter, which was now much smaller than that which he could in the earlier stage of his malady pass. Four days previous to my seeing him he was attacked with a complete retention of urine, which he attempted to relieve by warm fomentations, not liking to try the catheter, from the difficulty and pain experienced in its introduction. After some time, however, finding the warm fomentations useless, he

attempted, but vainly, to pass a catheter; he consequently again had recourse to the warm fomentations, but without any benefit. Becoming now alarmed, he sent to a medical gentleman, who resided near him. The catheter was again tried by the medical man, but unsuccessfully. Leeches, aperients, fomentations, enemata, &c., were ordered from time to time for some hours, but without any benefit. The retention had now lasted more than twenty-four hours; the patient's situation was becoming critical; the medical man therefore determined upon another attempt being made to pass a catheter, and instead of using a gum flexible one, such as the patient was in the habit of passing, he selected a silver one of a tolerable size, but he could not pass it. Again, leeches, warm baths, &c. were recommended; a little water, it was thought, dribbled away after this, and in the hope that if the urethra was not irritated further by instruments, the urinary evacuation would be restored, they were not tried. This hope, however, not being realized, and its being absolutely necessary that by some means the bladder should be relieved, it was proposed to punc-

ture it; to this the patient would not consent—some more time was lost; at length, as a last resource, it was determined to make another attempt with the catheter; the same silver one was again used, and after repeated attempts, and much forcing, it went in its whole length, but no urine escaped upon the stilet being withdrawn. Under these circumstances, I was requested to see him. Upon my arrival, I found the patient beyond all hope of recovery; he lay powerless and totally unconscious, the pulse feeble, hiccup, &c., and, in short, every symptom indicating approaching death. At the entreaties of his friends, I attempted to pass a catheter, and after a little difficulty, I succeeded in introducing a very small flexible one, the smallest that is made. When I say that I succeeded, I ought, perhaps, rather to say that by great good fortune the catheter hit the right passage, and I was thereby enabled to introduce it. The catheter was left in, and a considerable quantity dribbled from it, for it was so small as not to allow the urine to pass in a stream. The emptying of the bladder seemed for a brief space to give new life to the patient; it was, however, but transitory, and he died six hours after I first saw him.

I was enabled to make a hurried examination of the parts, and the plate, No. 2, fig. 1, gives a tolerable correct representation of the morbid appearances, although not taken from them. It will be seen that the prostate gland was enlarged altogether, and projected into the urethra, so as to totally alter its course as well as to lessen its diameter. The catheter introduced along the urinary conduit shows the false passage that was made in the substance of the enlarged gland ; unfortunately, however, it was a common catheter, and could not be forced sufficiently far so as to penetrate through the tumour formed by the enlarged prostate into the bladder.

From this case we may draw two important practical rules ; *firstly*, that in cases of retention from enlargement of the prostate, when instruments are necessary to relieve it, it is better to employ the flexible gum ones, than those of silver or other metal, as it is obvious that these latter must be more difficult to the surgeon to pass, supposing that he is occasionally successful with them, as well as more painful to the patient, from their not possessing the power of adapting themselves to the unnatural curves of the

prostatic portion of the urethra; *secondly*, that when we do employ silver ones with the determination of passing them into the bladder, we should take care they are *long enough* to penetrate through any enlargement that may exist. Thus, if a prostatic catheter had been used in this case instead of a common one, it is more than probable that the patient would have been relieved. Many surgeons that I know, both in town and country, keep only common catheters; this is a fault that their patients not unfrequently pay a heavy penalty for; therefore every man who intends to treat such cases, should have some prostatic catheters by him, as well as the common ones, the more especially if he reside in a country village, where such articles are not to be procured.

CASE III.

Enlargement of the Prostate, accompanied by a Diseased state of the internal Mucous Membrane of the Bladder, cured by the regular use of the Catheter, combined with Warm Water injections.

I WAS consulted by an old gentleman who had for two years laboured under the usual symptoms of enlargement of the prostate. At the commencement of his malady, he, as is usually the case, had not paid any particular attention to the slight impediment he experienced in the passage of the urine. For about a year from the first appearance of the difficulty, if indeed at that time it could so be called, he did not pay much attention to the symptoms, deeming it the natural consequence of advancing years; but at length, in addition to the hesitation, if I may be allowed the expression, of urinary evacuation, there arose a more frequent desire to void the urine, with a daily increasing pain at each call, which gradually became

almost constant, accompanied by a burning and scalding along the whole urethra, but more especially at the glands penis, both at the time of the water's passing and afterwards, with pain and a sensation of fullness and weight in the perinæum. In this state he applied to his family apothecary, who gave him some medicines of a diuretic nature, he supposes, from their effects, as he passed more water, and with greater power, but the pain and other disagreeable symptoms were in no degree lessened by them. After some time, finding no benefit from the medicines, at his request it was determined to examine the urethra with a catheter, to ascertain whether the difficulty arose from a stricture, or enlargement of the prostate. Accordingly, an instrument was introduced: when it reached the prostatic portion of the urethra, its further progress was stopped; after some little difficulty it was however passed into the bladder. Upon its being withdrawn, bleeding to a considerable extent occurred. At the next occasion to pass the water, the pain was increased, and towards evening, the operation having been performed in the morning, he was attacked with rigors,

as well as with an almost total retention of urine: however, by the use of the warm bath, opiates, leeches, &c., these urgent symptoms were overcome, and in a few days the patient's state was much the same as before the examination. Alarmed, however, by the serious increase to his sufferings from the instrument, he was for some time unwilling to submit to any further treatment, the more especially as he was informed that his disease, being enlarged prostate, was *incurable*; he therefore thought, that at his time of life it was better to submit to the evils he knew, than incur the risk of others which he knew not of. Thus matters remained for some time, with the exception that the difficulty and pain slightly, but not materially increased. Being an old sportsman, he about this time went into the country, when, one day, whilst out shooting, he had the misfortune to get exceedingly wet. In the evening, after having eat a very hearty dinner, and taken some wine, he was suddenly seized with rigors, and upon attempting to urinate, he found it impossible to do so. A medical practitioner, residing in the village, was immediately summoned, who ordered a warm bath and

some active aperients ; still the retention continued. Leeches, fomentations, opiates, both by the mouth and in enemata, were given, but without effect. Catheters of various sizes were now tried, but after repeated and long-continued attempts, which caused the most acute pain, as also a profuse bleeding, they were given up. A consultation was now determined upon, and an express sent for a medical gentleman, residing about fifteen miles off. In the mean time, leeches and fomentations were again employed. Upon the arrival of the surgeon, it was determined upon another attempt being made with the catheter, and after some difficult and two or three attempts, it was fortunately passed, and a considerable quantity of urine drawn off. From the difficulty experienced in introducing the catheter, it was thought most prudent to retain it, in order to guard against any future attack of retention. Twenty-four hours after it was withdrawn ; and as the patient was able to pass his water, the catheter was not again introduced. In a few days, the patient, with the exception of the natural debility attendant on his illness, and some other symptoms which I am about

to mention, was in much the same state as before the attack, the only difference being that he felt more pain over the region of the bladder than he had previously done, and that the urine now deposited what he called a slight, cloudy sediment. If any difference did exist in the stream of urine, he thought that it was larger than it had been. Shortly after this he came to London, the symptoms being somewhat increased in urgency, that is, there was an incessant desire to urinate. The stream being exceedingly small and inconstant, occasionally the urine dribbled away ; at others, it was ejected in a squirting irregular manner, accompanied by a most acute, lancinating shooting pain along the whole course of the urinary canal and perinæum ; and frequently, in the exertion of passing the water, the fæces would escape, so that now he was almost always obliged to go to the water-closet when he had occasion to void his urine, which was loaded with a tenaceous, ropy mucus, clinging to the bottom of the urinary vessel. His nights were passed in continual attempts to urinate ; and, in short, his general health rapidly gave way under the continual local irritation. In this state he consulted an eminent

surgeon, who recommended a preparation of buchu, attention to the bowels, and opiate enemata at bed-time; from this plan he derived but temporary and slight benefit. Another gentleman of equal eminence was consulted, who prescribed the uva-ursi, and, at different times, a variety of other remedies, attention to the bowels, and enemata at bed-time. A third surgeon was consulted, who, in addition to the above remedies, advised that the catheter should be passed every night. This afforded some relief, and the patient had better nights. Some little time after I first saw the patient, there was a most profuse discharge of ropy mucus, and the symptoms may be briefly stated as those which I have above mentioned. I at once told him, that the only prospect of relief that I could hold out to him, would be from the regular use of the catheter night and morning, combined with injections of warm water. To this he at first objected, because he argued that as the catheter, when passed every night, had done him no good, so would none be derived from its being used every morning in addition; and as to the injection, he did not think warm water could do much, and he

asked if I could not prescribe some internal medicines that would be likely to be beneficial. To all this, I simply replied by calling his attention to the little advantage he had experienced from the medicines that had been given him, and which embraced all I had ever heard of as being employed in similar diseases ; and I concluded by begging of him to give the mode of treatment I had suggested a trial, assuring him at the same time that, from what I had seen in previous cases, I entertained no doubt, but if he would place himself under my care, the result would be such as at least to relieve him from some of his most unpleasant symptoms. He accordingly placed himself under my care, and in conformity to my plan I visited him night and morning, introduced the catheter, drew off the urine, and then injected warm water. In a few days, a sensible amendment took place in the more painful symptoms, the bladder was much less irritable ; this was doubtless from its no longer being teased by the accumulated urine, as well as from the comfort afforded to the inflamed mucous membrane by the injection of the warm water ; the calls to urinate also became

less frequent and urgent as the irritability of the bladder diminished. This gave the excited organs of urinary excretion more repose; they in consequence began to recover their tone, and the patient to lose the acute symptoms he had laboured under: encouraged by these favourable appearances, he was as eager to continue the mode of treatment as he was before averse to it. Under such favourable prospects was the mode of treatment continued for two months, when the muco-purulent discharge was entirely gone, and, in short, my patient improved in every respect, his general health having kept pace with the amendment in the local disease. He was now most anxious to discontinue the catheter: to this I would on no account consent, as I felt assured, from what I had before experienced, that if he did so it would not be long before he was as bad as ever. For a month more the catheter was continued; it was then only used every night, and after some time I directed him only to use it occasionally, according to the ease or difficulty with which during the day he passed his water. It should have been stated, that in addition to the above means I employed such

appropriate remedies as I thought from time to time requisite to remove or lessen irritation, as also to regulate the bowels.

This case is a striking and convincing one, I think, of the efficacy of the mode of treatment by the regular employment of the *catheter and warm water injections*.

CASE IV.

Enlargement of the Prostate Gland mistaken for Spasmodic Stricture.

I WAS consulted by a clergyman, aged sixty, on what he supposed to be a case of spasmodic stricture, he having been informed, some time prior to his calling upon me, by Sir —, that the painful symptoms he was labouring under were the effects of that disease. Sir — had passed bougies regularly for a

considerable period, but without their producing any amelioration of the patient's sufferings, who, at length, wearied of a mode of treatment that was in nowise beneficial, ceased his attendance on Sir —.

Upon an examination of the urinary canal with the bougie, I experienced no difficulty in its passage, and the only indication of disease was the excessive pain experienced by the patient upon the bougie reaching the prostatic portion of the urethra and neck of the bladder, which parts were evidently in a highly excitable state, especially the prostatic portion of the canal: hence, I was induced to examine the state of the prostate, and upon doing so per anum I found that gland enlarged, but not to any very great extent. I should have stated, that Sir — had neglected to examine the prostate per anum, which may account for the erroneous opinion he pronounced on the case, as well as the want of success that had marked his treatment. The patient's state, when he first called upon me, was briefly as follows:—He had a constant desire to pass his water both night

and day, which, while it passed, was voided with difficult and extreme pain. This constant desire to urinate was particularly distressing to him, from his being obliged on Sundays to perform the duties of his sacred office, oppressed by the most acute and urgent desires to urinate, which of course it was impossible for him to yield to. As upon examination I found that the bladder was able to empty itself, I did not deem it necessary to prescribe the regular introduction of the catheter, but simply recommended mild aperients, opiates, enemata every night, and an ointment composed of iodine, &c., to be rubbed on the perinæum every night and morning, fomenting the parts previously with warm water. I also desired him to leave off all wine, beer, and spirits, and that his diet should be light and plain. By these means, in the course of a month he was considerably relieved. It is now near three years since I first saw him, and he has called upon me occasionally during that period, having had some disposition to a relapse, but which has usually yielded to appropriate treatment. Ultimately, if he neglects himself, I doubt not but that he will suffer under the

ill effects of enlarged prostate, but I believe if he is careful that he may keep off any serious results. This case is interesting, from the proof it affords that if timely aid be sought, where there is a predisposition to enlarged prostate, that its further progress may be retarded if not totally prevented.

CASE V.

Enlargement of the Prostate Gland—Partial Paralysis of the Bladder, with Disease of the Internal or Mucous Membrane of that Viscus, resulting from protracted and neglected Strictures of the Urethra.

THE Earl of ——* was recommended by his brother, the Hon. Col. ——, to consult me on a case of strictures of the urethra. Upon my waiting on his lordship at his residence, in compliance with a note I

* I would state, that as I did not take notes of this case, being too much occupied by my numerous engagements to spare the time, I can but give a general outline, and I fear a somewhat imperfect account, of this most interesting case.

had received requesting me to do so, I found that his lordship had been for very many years labouring under strictures of the urethra, but that it was only within the last few years that they had been troublesome, and even only within a year or so before my seeing his lordship, that they had become so serious as I found them, his lordship being, generally speaking, only able to void his urine guttatim ; at times, however, it would flow in a very fine stream for a second or so. The glans penis was indurated, and the external orifice of the urethra contracted ; the penis in various parts was also indurated, and there was considerable hardness and swelling in the perinæum. The quantity of urine voided at each attempt was small, and the desire to do so, consequently frequent, the amount voided in the twenty-four hours being only sufficient to relieve the distended bladder, but not to empty it. The urine passed was of a high colour, and strong ammoniacal smell. No bougie could be introduced beyond the first stricture, which was about three inches down the canal ; this stricture yielded to two or three applications of the kali (the remedy I employ for the cure of stricture) ; a

second stricture was found about half an inch further down the urethra, which was also easily overcome; a third then presented itself, and this was a most severe one, being a continued contraction of the urethra for nearly an inch. The kali was repeatedly applied, and at length the stricture rendered pervious to a bougie (size No. 6), this being the largest that could be passed through the external orifice of the urethra, which, as I have before remarked, was contracted, indeed, appearing as if it were bound round by a cartilaginous band. Notwithstanding, however, the size of the bougie passed, the amendment in the stream of urine was not at all corresponding to it, the urine being voided in a small stream, without any apparent power, unless the bladder was much distended, so as to allow of the abdominal muscles pressing on it when it was then evidently passed in a larger stream, and with more force. At first, not suspecting the true state of the case, I thought it might be the result of spasm in the urinary canal, arising from an inflamed state of the membrane lining it, and therefore applied leeches both before and after the bougie (No. 6)

could be passed. It should have been stated, that as soon as the strictures became pervious to a bougie, a profuse mucus deposit occurred in the urine, clearly indicative of a diseased state of the mucous membrane of the bladder. The prostate, upon examination per anum, was also found enlarged, and at one time I fancied fluctuation was perceptible in it, and I am not now even satisfied in my own mind whether there was or not at one time a prostatic abscess, which burst internally, and was discharged with the mucus secretion. As I was saying, I applied leeches under the idea that the difficulty now experienced was the effect of spasm, and in addition to the local abstraction of blood I prescribed such remedies as I deemed most likely to lessen the irritation. These means, to a certain extent, afforded relief by diminishing the excitement existing in the urethra, and as his lordship's general health was disordered from the irritation of the local disease, I recommended his lordship to go for a short time into the country, in the hope, that, now the strictures were so far removed, the bladder would regain its power, and resume its healthy action, and at the same time the general

health be improved. In this hope, so far as the bladder was concerned, I was however disappointed, and his lordship returned to town in much the same state as he left it; that is, the urine was voided without any power, and was still loaded with a copious mucus, ropy sediment, varying in colour, sometimes being of a white appearance, then brownish, and again slightly of a greenish hue. On passing the catheter just at first the water would flow through it with some degree of force, then dribbled, and finally cease, as though the bladder were empty, yet on pressure being made on the pubis over the region of the bladder, more urine would pass. This fully evinced that the bladder did not completely contract so as to expel its contents. Another symptom which should not be forgotten, was, that if the bladder was completely emptied by the catheter, then it would, by its own efforts, keep so; but if it was allowed to become distended, as it frequently was during the night, from his lordship not waking, then it seemed to lose all power of performing its functions. Upon consideration of all these symptoms, I determin'd first to endeavour to guard the bladder against distension,

feeling assured that whilst it was allowed to become so, no progress would be made towards a cure ; to this end I introduced the catheter daily, by which I also gained two other advantages, viz., the power of injecting the bladder, and of keeping the strictured portion of the urethra open. This was persevered in for some time, but without much benefit ; I then, in addition, ordered some preparations of buchu, &c. with a view to lessen the mucus secretion that was still poured out in great quantities. Shortly after these remedies were added to the treatment, an evident amendment occurred, especially as regards the mucus sediment, which disappeared. Some few days after it had done so, I gave my consent to his lordship's taking a walk, and also a glass of wine. The next day the mucus sediment was as great as ever. The buchu and every variety of medicine was again tried for a period of some weeks, but vainly ; nothing seemed capable of arresting it, and notwithstanding everything that was employed, and the most rigid attention that was paid by his lordship to my rules, little or no progress was made towards a cure, and, at the same time, the strict confinement his lordship was compelled to

submit to, was, in addition to the natural irritation resulting from the local disease, producing most injurious effects on his lordship's general health, so much so that I felt considerable anxiety as to the result of the case; and consequently, painful as it always must be to the feelings of a medical man to convey such an intimation to a patient, I yet deemed it my duty so to do, in order that a second opinion might be taken on the case, as such a course could not fail (be the result what it might,) to be satisfactory to all parties. In answer to my intimation, his lordship was pleased to express his entire confidence in my judgment, and his wish that I should continue solely to treat his case. Gratifying to me as such a mark of his lordship's confidence was, I confess that I felt considerable anxiety at the responsibility such a determination involved me in. In consequence of this determination of his lordship's, I now urged upon him most strenuously what I had before suggested, viz., that instead of my seeing his lordship, and passing the catheter only once a day, that I should be allowed to do so twice, as I was led to think that, notwithstanding the daily employment

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of the catheter, the bladder occasionally became distended. To this his lordship at length consented, and the result was such as to exceed my warmest hopes, for no sooner was this simple addition made to our previous treatment, than the mucus sediment rapidly disappeared, and his lordship's health in every respect improved. In a few weeks his lordship was so far recovered that I deemed it no longer necessary for his lordship to remain in town. His lordship, in compliance with my opinion, therefore left for his seat ———. Very shortly after his lordship's departure from town (I think in a few days) I received a letter from his lordship, stating that the mucus secretion had returned, but not to such an extent as before. In reply to his lordship's communication, I recommended that his lordship's medical attendant should employ the catheter and injections the same as I myself had when his lordship was under my immediate care; this was accordingly done, and after some time his lordship was once more so far restored as to allow of the discontinuance of the treatment. Some month or two after this (as I have before said, not having taken notes of this case,

I cannot speak positively as to dates), I was deeply grieved at receiving a letter, informing me that his lordship was labouring under an attack of hernia humoralis, accompanied by the most severe local and constitutional irritation. Feeling it impossible to prescribe for his lordship without a personal examination, I immediately proceeded to his lordship's seat; upon my arrival I was happy to find, that from the prompt and judicious treatment which his lordship's medical attendant had adopted, the imminent danger which had threatened his lordship was overcome. I found, however, his lordship still exceedingly ill. I learnt that the attack of hernia humoralis was supposed to have occurred from his lordship striking the parts on the pommel of his saddle in riding. As his lordship began to improve from the attack of the hernia humoralis, the mucus sediment reappeared, and the difficulty (which had never entirely ceased,) of voiding the urine increased. From time to time I continued to correspond with his lordship's medical attendant, and to suggest such measures as I thought advisable; but notwithstanding all our endeavours, his lordship's progress

was far from satisfactory, and at length, feeling the responsibility of directing the treatment of his lordship's case was too heavy without I could have the advantage of personally superintending it, I respectfully, through his lordship's medical attendant, suggested that it would be more advisable for his lordship to either place himself entirely in the hands of the gentleman who was attending his lordship, or that he should come to town and place himself under my care, when I could with greater advantage, as well as confidence, prescribe for his lordship. Some time after this his lordship came up to London. Upon my visiting him, and examining the urethra, I found the case had assumed a new aspect, and that the difficulty of voiding the urine was very much increased, if not totally caused by an inflammatory and spasmodic affection of the urethra; and, upon a further examination of the urinary canal with the urethral balls, I found, at that part of the canal where the broad stricture before alluded to was situated, four or five distinct irregular ridges of strictures, which were highly sensitive, so that, immediately on the ball or

catheter touching their edges, the most powerful and painful spasms were produced: this at once explained the cause of the difficulty experienced in the evacuation of the urine. I was further led to believe that between these ridges ulceration of the urethra existed, as also that some portion of urine was lodged between them; hence I determined, after some time, upon introducing a catheter, and allowing it to remain in continually, so that the urine should not come in contact with the ulcerated surface of the urethra. I accordingly passed a catheter at bed-time, directing his lordship to allow it to remain in till my arrival in the morning. Upon my visiting his lordship the next morning, I found the catheter had escaped during the night, and that considerable irritation had been induced from the retention of the instrument. Apprehensive of causing a return of the irritation in the bladder, and the mucus secretion from its internal membrane, I did not like to venture on a continuance of the treatment I had first proposed; in lieu of it I determined to occasionally, say twice a week, apply the kali on the urethral balls, so as to destroy the morbid sensibility of these ridges of stricture,

and on the intermediate days to pass the catheter, which I occasionally allowed to remain in for from half an hour to an hour. Continuing this mode of treatment, with a little variation, for about two months, I had the satisfaction of restoring my noble patient to such a state of health and comfort as he had not at any previous time enjoyed, and his lordship left town with every prospect of a complete restoration to health. I have seen his lordship since, and, with the exception of a slight derangement in the urine, arising, in my opinion, from disordered digestion, he continues to gain in health and strength, and as I have not since heard to the contrary, I presume that even that has ceased, as I prescribed for his lordship some remedies for its removal.—I find in this case that I have omitted a very important part of it, and the treatment more especially, as it bears on the subject of this work: I allude to the enlargement of the prostate, and the means that I adopted for its reduction. Of course, the steady use of the catheter was in this, as it must be in every case of enlargement of the prostate, highly serviceable; but another remedy was no less so, namely, an ointment com-

posed of iodine, camphor, &c.; nor was it alone on the prostate that this valuable remedy produced the most happy results, for immediately on its use a great many of the painful and inflammatory symptoms existing in the urethra disappeared.

Since the foregoing was written, I have had the pleasure of hearing from his lordship, informing me that the last medicines I prescribed, in a fortnight removed all the unpleasant symptoms he complained of; and that since that period he has been able to take his usual exercise; and, (to use his lordship's own words,) "in short, I consider myself quite well, for which I am truly grateful."

CASE VI.

*Enlarged Prostate, causing Disease of the Bladder,
Treated by Injections, and finally the Disorder of
the Bladder removed by Injections of the Chloride
of Zinc.*

A GENTLEMAN aged seventy consulted me in consequence of suffering under enlargement of the prostate gland, which had given rise to that disease of the bladder sometimes designated Chronic Catarrh. Upon inquiry, I learnt that he had for the last four years prior to his consulting me, suffered under the usual symptoms attendant on the enlargement of the prostate, such as difficulty of urinating and so forth, and which it is scarcely necessary to repeat. About a year previous to my seeing him, he first noticed the mucus discharge from the bladder, which had gradually continued to increase up to the time of his coming to me, at which period there was discharged

from the bladder, in the course of twenty-four hours, upwards of a pint of ropy, tenacious, glairy mucus. I should further state, that prior to his seeking my aid every variety of medicine had been vainly tried, he having consulted several of the most eminent surgeons in London. Leeches had also been employed, with a view to diminish the chronic inflammatory action, on which the discharge is supposed to depend ; but so far from their proving advantageous, he, the patient, thought, that on the contrary they were injurious, in which opinion it was most likely he was correct ; for I have repeatedly myself had occasion to mark the like results from their application. I would therefore caution the junior members of the profession against their employment in this disease ; for although it is true, that when this mucus secretion is observed in the urine the internal or mucous membrane of the bladder is also generally, if not always, found in a state of chronic inflammation, and therefore although, *à priori*, we might naturally suppose that the local abstraction of blood would be beneficial, yet in truth we here find, as in many other cases, theoretical rules overthrown by practical facts ; for

so far from such results following the application of leeches, it is almost constantly found in these cases, that the mucus secretion is increased by them ; for the chronic inflammatory action is usually the result of a want of tone in the vessels of the mucous membrane of the bladder, arising from the excitement which has been and is kept up by the accumulated urine and mucus ; therefore in these cases, I repeat as a general rule, bleeding is inadmissible. But to resume : having learnt the foregoing particulars, I determined on the regular use of the catheter, combined with warm-water injections. This mode of treatment was persevered in for three weeks, the only result being a slight relief of the painful feelings in the bladder ; the discharge however was as great as at first. I now used the nitric acid injection for three weeks, but without any amendment taking place. Under these circumstances, I determined on trying the effect of a lotion, composed of a solution of liq. cupri ammon : after two weeks' steady perseverance in it, the strength being gradually increased, there was a considerable diminution of the mucus ; subsequently,

however, the injection seemed to loose its power, for although the amendment that had occurred did not retrograde, yet, on the other hand, it did not advance. I now bethought me of the chloride of zinc, and accordingly prepared an injection composed of it, and its beneficial effects totally surpassed my warmest anticipations; for under its employment the discharge in a month was completely removed, and all the painful and urgent symptoms that had accompanied it ceased; at the same time, the regular use of the catheter had acted most favourably on the prostate, and the patient could consequently pass his urine without much difficulty; indeed, I may say, he was well, for although of course he could not void the urine with the freedom and power that he did in earlier life, yet he urinated with such ease and celerity as afforded him no grounds of complaint. Notwithstanding this, I however recommended the occasional use of the catheter, which was continued for two years without my patient's once suffering any inconvenience. He died nine months since, from an attack of apoplexy.

This case is interesting, as illustrating the safety with which we may employ local astringents to arrest morbid secretions from the bladder, as well as their efficacy when so employed. For my own part, I feel perfectly confident that we may with the greatest advantage employ local astringents in this disease of the bladder, and that the fears entertained on this head are perfectly groundless. This is not a hasty opinion, but one resulting from much experience in these cases. At the same time, I freely confess that it requires a nice judgment to distinguish between the cases that admit of this mode of treatment, and those that do not. Such happy discrimination is only to be acquired by *experience, great experience* in the fields of practice; words and book-knowledge are here useless; and therefore, although I speak confidently as to the advantages resulting from the mode of treatment in question, yet I would not have my readers hastily adopt it in all and every case which may to their eyes appear to be calculated for this method of treatment, for if they do the result may be most fatal, not only to their own reputation, but also to their patient's, whose life may fall a

sacrifice to their rashness; on the other hand, if the treatment be employed in appropriate cases, and with due caution, the result, I feel assured, cannot fail to afford gratification to the surgeon, as well as relief to the patient; at least, such has ever been the result in my own practice.

CASE VII.

*A protracted Case of Stricture, accompanied by
Disease of the Prostate, Bladder, and Kidneys.*

J. D. consulted my late father, about six years since, in consequence of labouring under a most severe stricture, which had for a period of thirty years resisted all surgical treatment. It is true that at an early period bougies could be passed into the bladder; and once whilst under the care of one of the numerous surgeons he had consulted, he thought himself cured, but after the instruments were discontinued, the stric-

tures gradually returned, and in the course of years became again impervious: at length one surgeon whom he consulted succeeded, after great difficulty and much forcing, in passing an instrument into the bladder; the consequences, however, were more disastrous than his failure would have been, for an abscess was caused in the perinæum, which was ultimately obliged to be opened. From that time to the period of his consulting my father, no bougie could be passed; the abscess in the perinæum ultimately healed, but some time after several little abscesses and fistulous openings were found around the verge of the anus, and the patient further remarked, that when his motions were passed he invariably discovered traces of purulent matter on them. In this deplorable state he remained for some years, seeking, but in vain, for relief from some of the most eminent men in London. Nothing could be done for him, and at last the urethra became so contracted as scarcely to allow the urine to pass at all, and what was voided was scarcely sufficient to relieve the distended bladder, and that only passed by the most powerful straining, and causing in its passage the most dreadful agony not only

in the urethra, but also in the rectum. Such was his state, he subsequently informed me, when he first applied to my father: after he had been under my father's care for about four months, a bougie of the size number eight could be passed into the bladder. I should have stated that as soon as the strictures became pervious to the bougie, a most profuse mucus secretion was passed with the urine, such as is usually found in catarrh of the bladder. It was at this time that I first became acquainted with the patient, in consequence of my taking on myself the entire management of my father's practice. Upon my first passing a catheter, I found no great difficulty in introducing one of the size number eight, but as the instrument passed the bulbous portion of the urethra, I was sensible of there still being irregular contractions of that part, and upon further examination with the urethral balls, a sensation was conveyed to the touch as though it were passed over numerous irregular ridges of stricture; and when at other times a soft wax bougie was introduced, and allowed to remain in for some time, it would, upon being withdrawn, have its surface irregularly indented for at

least an inch. When the catheter was passed into the bladder, which there was no difficulty in doing after it had once gone beyond the strictures, I was constantly puzzled to account, but never could, for the pain that was frequently occasioned when I depressed the handle of the instrument, thereby raising its point. The reason of this, however, will be presently seen. In addition to these appearances, when I first became acquainted with the patient, I have only to mention the existence of the ropy, mucus secretion from the bladder. Under these circumstances I recommended the continued and regular use of the bougie (I had not then become sensible of the great benefit resulting from the injection of the bladder), and after some months' continued use of the bougie, all the irregular ridges of stricture already mentioned disappeared, and a catheter (size No. 10) could be freely passed, both by myself and the patient. The wax bougie also no longer when allowed to remain in, upon its withdrawal presented the indented and irregular appearances it had. I now thought the strictures cured, and was most anxious to see what could be done for the bladder, and proposed, having seen in Sir Charles Bell's *Observa-*

tions on Diseases of the Urinary Organs, the efficacy of warm water injections alluded to, to try them in this case ; but, unfortunately, I could not persuade my patient, at that time, to submit to any further treatment, as he thought that as the strictures were cured, and he no longer experienced any difficulty or pain in urinating, that the cause being removed of the disorder in the bladder, that viscus would of itself regain its natural condition. Impressed with this opinion, it was in vain that I urged him to submit to further treatment. Thus matters rested for some time, he merely occasionally calling upon me about once a month or so, when I used to pass an instrument for him, for the purpose of ascertaining the state of the urethra, which appeared to be recovering its tone. The mucus secretion however was in nowise diminished, and the urine passed was frequently of the most fetid smell ; and generally there would be an appearance of pus mixed with the mucus and urine. Notwithstanding all these untoward symptoms, and my urgent entreaties, he still would do nothing for their removal, it seemed as if the relief he had experienced from the removal of his strictures had

rendered him insensible to all maladies; however, about twelve months previous to his death, he became partially convinced of the futility of his expectations, that Nature would herself effect his cure. At length, agreeably to my wishes, the bladder was injected with warm water, and always with the greatest benefit; but still I could not get him to attend regularly, therefore little or no progress was made, at the same time his general health was evidently seriously affected. Under these circumstances, I deemed it my duty forcibly to point out to him the precariousness of his state. Conscious of, and alarmed at the progress of his disorder, he determined upon submitting entirely to my orders. I consequently recommended him to take lodgings near my house in town, or my country residence, when I would see him night and morning; at the same time, I advised him to do the latter, as I thought the change of air would be advantageous. Upon inquiry in my neighbourhood, no lodgings could be had, at which he was much disappointed; however, in order that that should not interfere with his restoration, I determined on offering him an

apartment in my own house in the country, which he gladly accepted, expressing much gratitude for my kindness. As soon as he was comfortably settled, I commenced with injecting the bladder night and morning with warm water, and made him pay strict attention to his diet and bowels. After a month's trial, the only effect of the treatment seemed to have been to allay in some degree the extreme pain and irritation of the bladder and rectum; his general health was also somewhat improved. I now tried the nitric acid injection, but without any material benefit: I then had recourse to one containing some liq. cupri ammon; this produced a very evident amendment, not only in the mucus secretion of the bladder, but also in the quantity of matter discharged from the little fistulous openings above mentioned, and the rectum. This was persevered in for three weeks with the greatest advantage, and at the same time his health was much improved, he slept better, his appetite improved, his bowels became regular, the urine also was more natural, and he was daily gaining flesh. After this, notwithstanding his health continued to improve, the mucus secretion did

not diminish. I therefore determined upon trying a fresh injection, and accordingly used one of chloride of zinc, and after a month's steady perseverance in its use, the discharge of mucus had nearly ceased from the bladder, and entirely from the fistulous openings and rectum ; nor was the amendment in his bodily health less remarkable and satisfactory ; in short, his improvement was so great, that I became convinced that my opinion, as to there being serious disease in the kidneys, was erroneous, and began to look forward confidently to his restoration to health. At length he returned home with, as I have said, my strongest anticipations for his perfect recovery. I gave him particular instructions as to his diet ; I also taught him how to inject the bladder ; and, in short, strongly urged upon him to continue to live in the same careful manner that he had whilst with me, all which he of course promised, but unfortunately, being of a sanguine disposition, he now thought himself well, and no sooner returned to his own residence than he began to disregard my rules ; and being further somewhat obstinate, it was in vain for his family to attempt his control. Amongst

other foolish things, he one day took it into his head to pay a visit to his brother, who resided a few miles from him, and instead of riding, he would walk, although I had forbidden him to do so; the consequence was, that being a warm day, he got much heated; and then, when he arrived, imprudently and unfortunately seated himself close to an open window. (I would here pause just to remark, that his brother has since informed me that he never was so surprised as he was at witnessing the great improvement that had taken place in his, the patient's, appearance.) But to resume. Upon his return home he felt greatly fatigued, and in a few hours was seized with shiverings; in short, he had taken cold, and was attacked by a most severe fever; for some two weeks he was confined to his bed, merely taking such family remedies as he thought best, for he did not send to me, being somewhat ashamed at the idea of seeing me after his imprudence; at length he wrote, informing me of what had occurred, and in about a week he managed to come up to my house, and I was most deeply grieved and surprised at the alteration that had taken place during the few weeks that he had left

me; at the same time, I could not refrain from expressing myself most strongly against the imprudence he had been guilty of. Unfortunately, he did not take my observations in the kind spirit that they were made on my part; for, from having known him so long, I felt an unusual interest in his case, and was more moved, consequently, by his imprudence than I should have been in any ordinary case; however, the result was that he did not attend me regularly, and at last ceased to communicate with me. About a month after this, I received a letter from his brother, requesting me to visit my old patient, whom he stated to be most seriously ill. Upon my arrival I was most painfully shocked to find that he had been taking Morison's pills, and they had caused the most frightful vomiting and purging for the ten days previous to my seeing him, and which still continued. I at once saw that his hour was arrived; I, however, as in duty bound, employed every resource of our art to arrest and prevent the event I dreaded; but notwithstanding I succeeded in checking the vomiting and purging, and that for a brief space

of time he seemed to rally, yet he ultimately sunk, and died a week after my seeing him.

The friends of the patient having with much kindness and good sense yielded their consent to a *post-mortem* examination, in conjunction with my friend Mr. Hinde, I opened the body. The morbid appearances found in the kidney, bladder, urethra, and rectum, are represented with great accuracy in the plates Nos. 7 and 8, which are lithographed from beautiful drawings, taken at the examination, and for which I am indebted to the kindness and talents of Mr. Hinde.

Upon laying open the right kidney, a considerable quantity of pus was discharged. By referring to plate 8, it will be found that the kidney is greatly enlarged, and at its upper part surrounded with an unusual quantity of fat. In the substance of the kidney are seen numerous calculi; indeed, the kidney, when laid open, presented somewhat the appearance of a honey-comb, into which had been inserted numerous calculi: many of them are of

considerable magnitude. A very large calculus was likewise found in the pelvis of the kidney, as also one of smaller size, fixed in the centre of the ureter, about an inch below its commencement. The right ureter was much diseased. The left kidney, except being somewhat larger than natural, did not offer any traces of disease. The morbid changes which had taken place in the bladder are correctly shown in plate 7; and by referring to it, it will be seen that the internal or mucous membrane of that organ was much inflamed, especially at that portion denominated the *trigone vesical*. A sac or pouch had also been formed by the protrusion of the internal or mucous membrane of the bladder through the fibres of its muscular coat. Pursuing our observations to the neck of the bladder and the urethra, we find that at the prostatic portion of the urinary canal a false passage had been made through the prostate into the bladder. This false passage was capable of admitting through it a bougie of the size number 10. It was perfectly smooth, and the membrane lining it could not be distinguished from that proper to the urethra. The orifices of the ducts

of the prostate gland were much enlarged. In the substance of the prostate were the remains of an abscess, which communicated by four or five fistulous openings with the rectum. Continuing our researches from the prostatic portion of the canal towards its termination at the glans penis, we next observe a thread-like band of stricture, extending across the urethra, and just beyond it a still more extraordinary morbid growth, presenting the appearance of a broad band, also extending across the inferior surface of that canal. The anterior edge (looking at it from the glans penis) of this band or stricture is firmly and closely adherent to the inferior surface of the urinary conduit, whilst its posterior edge is unattached. By turning to plate 7 (figure 1, letter *L*) a probe will be seen, the end of which has been pressed, first under the thread-like stricture, and then continued down to the broader one, under which it is inserted for nearly an inch, that is, to where the anterior edge is lost in its connection with the inferior surface of the urethra. Between this portion of the urethra and its termination were traces of two strictures that had been destroyed by

the caustic, the effects of which application seemed to have been to render the mucous membrane of the urethra whiter and thicker than in the natural state.

A few brief remarks on this case, and the serious as well as complicated morbid appearances found, will not, I think, be uninteresting or unacceptable to the reader.

First, then, as regards the disorder in the kidney. It is evident that it must have been in a state of disease for a considerable period before his death, yet it was only between his leaving my house and that event that he complained of any severe pain in the region of the kidney, certainly at no time before the above period did he complain of such a degree of pain as one would be inclined to imagine he must have experienced from the formation of the pus as well as from the presence of the calculi. When he first came to my house, and after I had had repeated opportunities of closely examining his urine, I became nearly convinced that pus was discharged from one if not both kidneys; at the same time

there was such a combination of urine, ropy mucus, and pus-like secretion voided from the bladder, that I felt it to be impossible to form an unerring diagnosis. However, in consequence of my suspicions, I questioned him most minutely as to his feelings of pain in the region of the kidneys, not only as regarded the time present, but also as regarded any anterior period, at the same time explaining my reasons for making the inquiries, but I could not learn that the pain he experienced was at any time beyond what might have been reasonably expected from his other maladies, and certainly nothing equal to the urgent sufferings I should have supposed to have arisen from such extensive disease as appears to have existed. This absence of pain (I had almost said total absence), rather led me again to doubt that the pus was secreted in the kidneys; and I was then induced to attribute it—the purulent discharge—solely to the existence of a prostatic abscess; and in favour of the correctness of this opinion, I had the support of the purulent discharge from the rectum, as well as the little fistulous opening in the posterior part of the perinæum, and

on the verge of the anus. The post-mortem examination proves me both right and wrong; at the same time, it shows such a complication of serious diseases, as to have rendered a full and correct diagnosis impossible. I was partly right in first attributing to the kidney some portion of the purulent secretion voided, but subsequently wrong in supposing it came solely from the prostate; but here again partially right, as no doubt some portion of matter did flow from that gland, especially that which was discharged per ani, and from the fistulous openings, as the post-mortem examination has indisputably shown.

The next inquiry that suggests itself, is how it was that no appearances that would have informed us of the existence of calculi, were observed either by myself or the patient. That at times some calculous concretions were voided with the urine, I think must be certain; and the only satisfactory reason that can be given for their escaping observation when so voided, is from their having become so mixed with the pus and thick ropy mucus, as not to be distinguished. At the same time, the injection of the

bladder with warm water must have tended in a great degree to prevent the formation of any calculi in that viscus, by removing the concretions from it as soon as they escaped from the ureter into the bladder. The pouch of the bladder is a morbid state of that organ which it was utterly impossible to ascertain with any degree of certainty during life, and even if ascertained would still have been beyond remedial means ; therefore, any speculations on this head are useless. Proceeding to the consideration of the morbid appearances in the prostate, we will first inquire when it was that the false passage was made. Was it when the bougie was forced in some years prior to his consulting my father ; or was it at a later period ? that is, during the last treatment. If I am not prejudiced, and therefore incapable of forming a dispassionate opinion, I should say, without doubt, at the former time. For we find that as a consequence of the force that was used, and the passage of the bougie, that an abcess in the perinæum was caused, from which pus was discharged, and further, that close upon this event first appeared the fistulous openings around the verge of the anus, as

well as a purulent discharge from the rectum, and also observed on the surface of the fæces when voided—all of which symptoms continued (with the exception of the brief interval of amendment that occurred whilst with me,) up to the time of his death; and which fistulous openings are, by the result of the post-mortem examination, clearly shown to communicate from the rectum and verge of the anus to the substance of the prostate gland. Another circumstance,—which, although it proves nothing directly, yet is strongly corroborative of the correctness of my opinion,—is, that the patient repeatedly assured me that at no time whilst under my father's care was any force used, or half, or anything like half the pain caused from my father's operations, as from the operations of others. That when my father, the patient, or myself, at a later period, passed an instrument, it occasionally entered the bladder through the false passage, I think is not improbable; indeed it is, I am bound in candour to say, beyond doubt; at any rate that it did so, when I have passed the instrument, is certain, at least that is the only reason that I can give for the extreme pain that was at times

occasioned, as I have before remarked, from depressing the handle of the instrument, and thereby raising its point, and as it would now appear along with it, the band forming the upper surface of the false passage. When pain did not attend upon depressing the handle, it is probable that it entered the bladder by the right passage. However, although now it is easy enough to determine when the instrument went right and when wrong, it was not so easy during the life of the patient to know this, or indeed to be at all aware of the existence of the false passage—nay, start not, reader, at this confession; for although it may appear very easy to you, especially if your experience of such cases be drawn from *lectures*, and *theoretical* rather than from *practical* knowledge, to determine whether the bougie is in the right direction or not; yet it is, I can assure you, (unless indeed the bougie be wide of the mark, and not, as in this case, very nearly right,) a point which I have often seen puzzle, and indeed baffle the sagacity of some of the wisest and most experienced members of the medical profession to determine upon; and therefore we need none of us hesitate to openly avow our inability of at all

times coming to a correct opinion on this head. But to resume. As I have stated, I think the evidence I have offered makes it most likely that the false passage was made at the first-mentioned period. We now come to the thread-like stricture found extending across the urethra. At first, I was inclined to look upon this as having been produced by some accidental cut in dissecting the parts, by which this had been separated from the broad band below it; but upon a careful examination I felt convinced that such was not the case; and in this opinion Mr. Hinde fully concurred. We must therefore regard it as a true stricture. We now arrive at the most extraordinary and unusual morbid appearance of all, viz., the broad band just anterior to the thread-like stricture (vide plate 7 letter *K*). This is a morbid appearance, which, as far as I am aware, is unprecedented in the records of morbid anatomy, as connected with the urethra. It is of course difficult to offer any explanation as to the growth of this band, that will not be open to much doubt and discussion; but at the same time, I shall not hesitate to state my views of its formation.

Well, then, we must recal to mind that when the patient first consulted my father, the strictures were impervious to any instrument, and had been so for years; also that the urine hardly ever passed in a stream, but mostly in drops, and even in that manner requiring much time and straining.

Under these circumstances we have seen that the kali was used, and the stricture finally rendered pervious to a bougie of the size number 10. At that time I first became acquainted with the case, and, as I have already said, I found much irregularity of the urethra—perhaps roughness may more properly express the condition I would describe. How was this roughness produced? I should say that the original obstruction in the urethra must have arisen from a contraction of that canal for about an inch, and that in the progress of its destruction it was irregularly destroyed by the caustic, it being of course impossible, where repeated applications of that remedy are necessary for the destruction of a stricture such as the one in question, that the caustic can always be applied exactly in the median line so

as to keep the surface of the stricture smooth, and the opening through the contraction straight. To this circumstance I think may be attributed those irregular appearances I have stated that I found, when I first saw the patient, upon passing the urethral balls, as well as impressed on the surface of the wax bougie when that instrument was allowed to remain in sufficiently long to take an impression. Further, it is not unlikely—indeed, I think, it is certain—that there was at this time ulceration on the surface of the remaining portion of stricture, as well as considerable inflammation of the mucous membrane around it. In this state of the parts bougies were only occasionally passed. Now, it is not, I think, unreasonable to suppose that adhesions took place between the sides of the urethra in the intervals between the passing of the instruments; and that when they were passed, instead of the adhesions being broken down by the instrument, they yielded to the dilating power of the bougie, and thus gradually became consolidated, and formed this web, as it were, across the urethra. That such is

the history of the formation of this band I feel pretty confident. It is indeed a singular and interesting morbid growth, and one calculated to produce complicated and difficult symptoms in the living body, as thus: in passing a bougie into the bladder, as the point reached that portion of the urinary canal, it would firmly and closely depress to the inferior surface of the urethra these adhesions, so that there would be no great impediment to the passing of the instrument—merely perhaps a feeling of tightness; thus no idea would or could be formed of the true nature of the obstruction. On the other hand, as the urine passed out of the bladder, some portion of it would most probably insinuate itself under the unattached flap, if I may so express myself, and of course raise it, and thereby materially impede the passage of the urine. This would naturally lead to the supposition of the existence of a severe stricture, which indeed would be the case, yet as the bougie passed without any great difficulty, it would create much uncertainty as to the nature of the impediment to the exit of the urine.

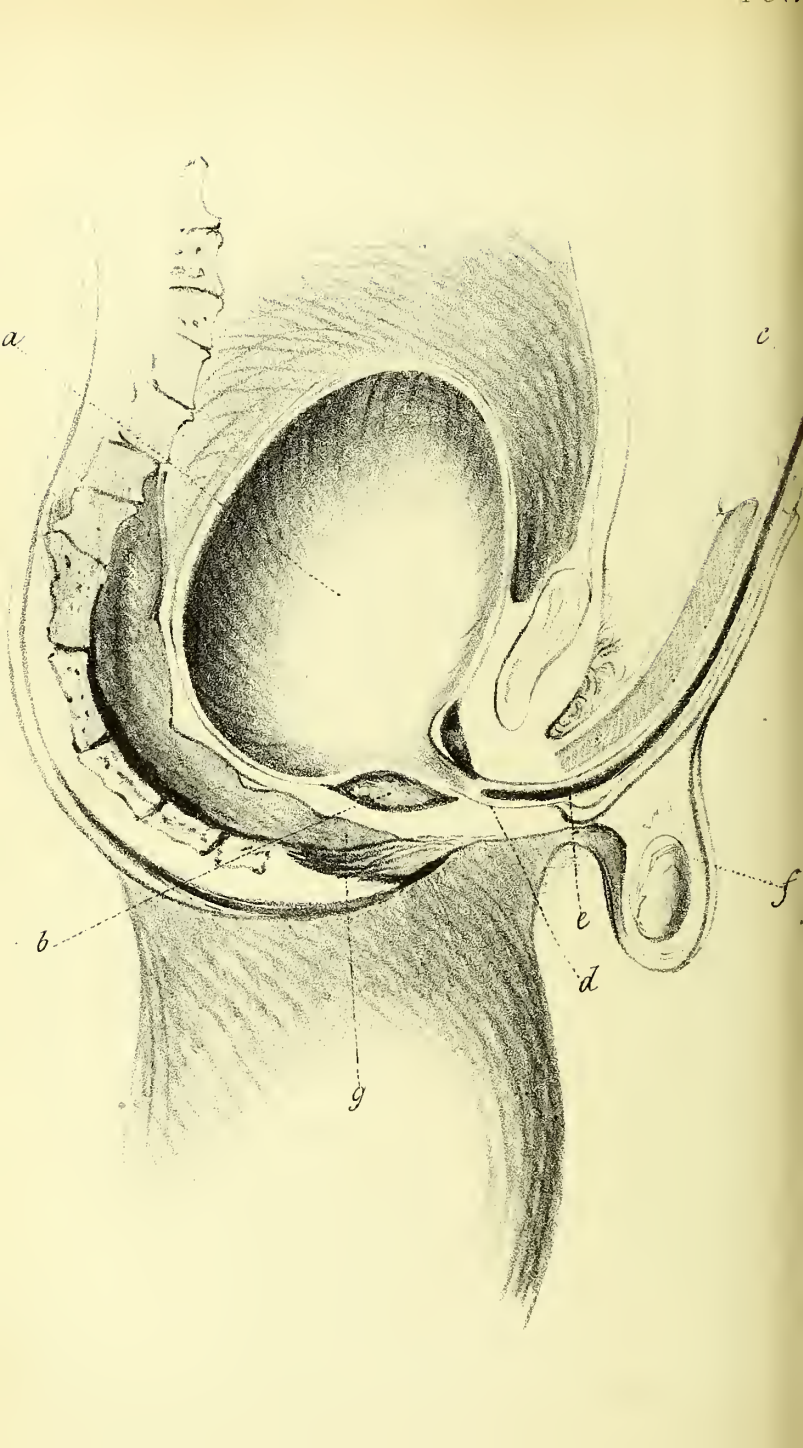
Now, before I close this case, and with it this work, let us inquire what practical results we may learn from the foregoing case, so as to guide us in our operations and diagnosis, should we meet with a similar one. First, then, we will consider what means we have that would enable us to arrive at a true knowledge of the existence of such a band as that which I have described across the urethra. A bougie, a catheter, or any such instrument, would yield little or no information in such a case. Are we then without any means of acquiring some degree of accurate information respecting the condition of the parts, should an analogous case occur? Fortunately we are not; for in the urethral ball, or sound, we shall obtain a correct guide to the proper elucidation of the subject. This instrument, in its passage, would, as the bougie, pass over the band, and so far give us no greater information; but, during its withdrawal, it would be sure to catch against the unattached edge of the band, and raise it, thereby at once informing us of the nature of the impediment. Having thus ascertained the nature of the obstruction, an inquiry of equal importance at once arises,

namely, what remedy can we employ for the removal of it? A bougie, it is evident, is here useless; well, then, how are we to proceed? The plan I should adopt would be this: having, with the urethral ball, ascertained the nature of the case, I should take one of these instruments, of as large a size as would pass, and at the posterior part of the ball, close up to the wire, I should cause a hole to be made into it; into this opening I should insert a small portion of kali or lunar caustic; then, covering the whole of the ball with lard, I should pass it rapidly down the urethra, and as soon as it had passed over the band, draw it back, taking care to bring the posterior portion of the ball against the edge of the band. By this mode of proceeding I should gradually destroy the whole of the band, with the same degree of ease that I could an ordinary stricture. These urethral balls are well adapted to convey a correct idea as to the nature, shape, or situation, of whatever obstruction may exist in the urethra, and yet they are scarcely known to the great bulk of the profession. As an instance of this, I would state that, some time since, being in

want of one of these instruments I went to my instrument maker for it, but he had not one by him. Upon my expressing to him my surprise at his not having them, he informed me that he had not been asked for such an instrument for years, and therefore did not keep them ready.

I will now only make a few observations on the conclusive evidence, which I think this case affords, of the efficiency of the mode of treatment by injections of the bladder, in the deranged and increased mucus secretions to which it is liable. We have seen that, notwithstanding the many disadvantages that such a case presented, that the most marked benefit resulted from the regular use of the catheter and injections ; for, under their employment, the secretions from the bladder almost ceased, and that viscus began in a great measure to recover its healthy tone ; the purulent discharge, *per ani*, which had existed for years disappeared ; and the case, from having presented the most unfavourable, now assumed the most promising aspect ; and I have no doubt but that, had there existed only the disease of the bladder without any

calculi in the kidney, the patient's life would have been much prolonged. For instance, if similar derangements in the bladder had arisen—as they frequently do—from enlargement of the prostate gland, I should entertain no fears but they might be overcome; and I feel equally confident that many unfortunate sufferers, who are now labouring, as they believe, under incurable disease of the prostate gland and bladder, are far from being in the hopeless condition they have been taught to think themselves. Let them make trial of the means I have herein suggested, and I feel assured it will not be long before they *fully concur in my opinion*.



EXPLANATION OF PLATES.

PLATE I.

THIS plate represents a section of the urinary bladder and urethra in their natural state. It has been introduced for the purpose of recalling to the “mind’s eye” of the reader the anatomical connections of the prostate gland with the bladder and urethra, thereby, at a glance, as it were, enabling him to compare the parts in a state of health and disease, and, at the same time, of more readily acquiring a correct knowledge of the serious evils that must attend upon the latter.

A. The cavity of the bladder.

B. The prostate gland connecting the neck of the bladder with the commencement of the urethra. A moment’s glance at the situation occupied by the prostate, in relation to the bladder and urethra, must at once make us sensible of the inconvenience and ultimate danger which its enlargement would produce.

C. An instrument introduced along the urethra as far as the prostatic portion of that canal.

- D.* The membranous portion of the urethra, which commences at the termination of the bulbous, and ends at the prostatic portion of the canal.
- E.* The bulbous portion of the urethra.
- F.* A section of the scrotum, in which is seen one of the testicles.
- G.* The rectum.
-

PLATE II.

FIG. 1.

Represents the prostate gland considerably enlarged; a catheter has been passed into the substance of the gland, in the attempt made to introduce the instrument, for the purpose of relieving the bladder of the accumulated urine. This case shows at once the necessity of employing *prostatic catheters*, in place of the ones in common use.

- A.* The cavity of the bladder.
- B.* The enlarged prostate.
- C.* The catheter introduced along the course of the urethra as far as the prostatic portion; it is then seen to pass from the urinary canal into the substance of the enlarged prostate.
- D.* The prostatic portion of the urethra pushed out of the natural course, and rendered irregular from the protrusion of the enlarged prostate into the canal.

Fig. 1.

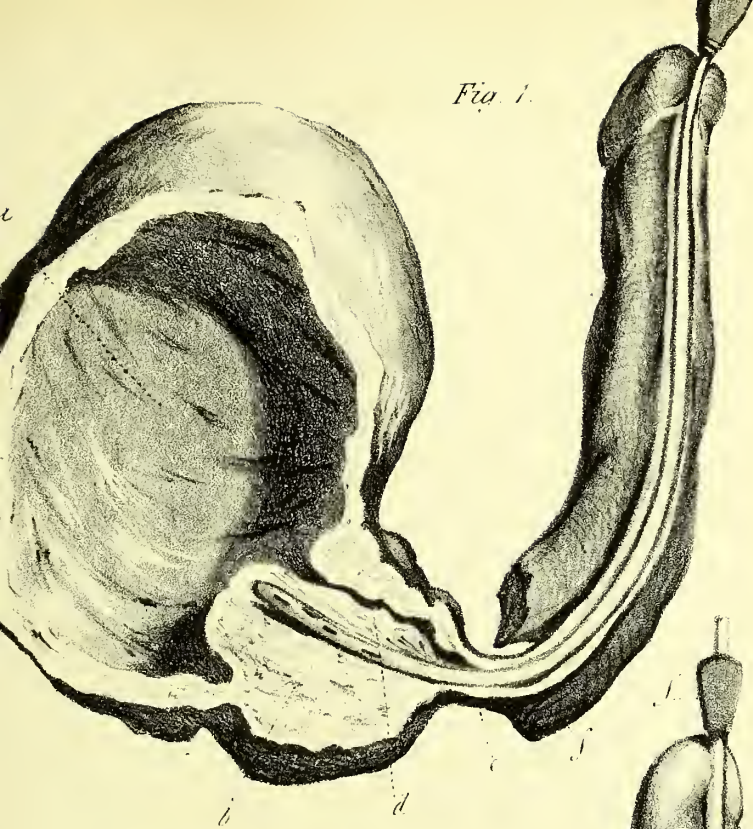
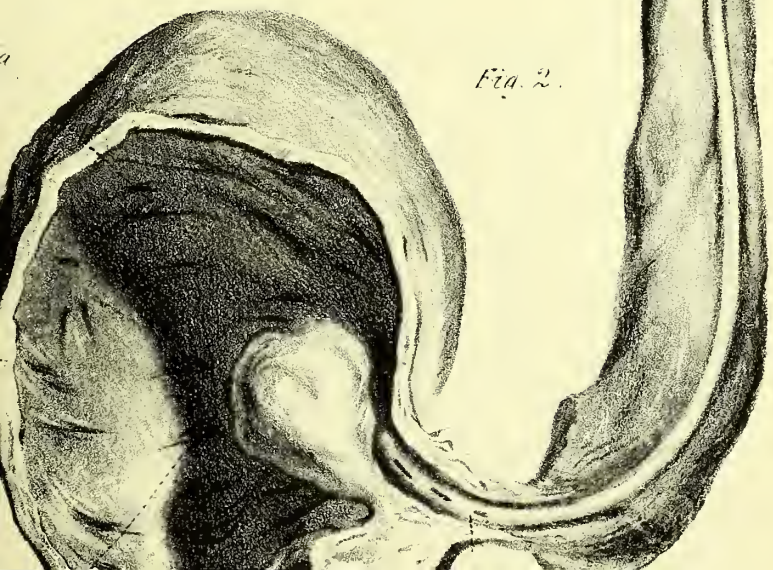
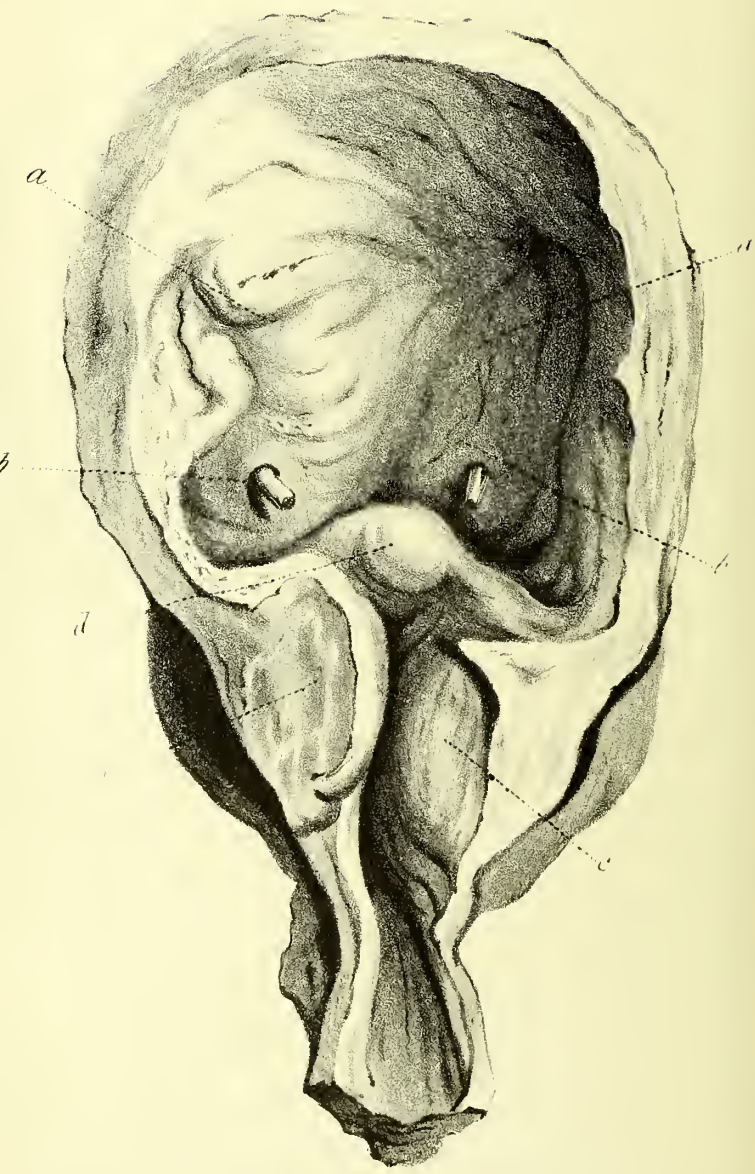


Fig. 2.





- E.* The membranous portion of the urethra.
- F.* The bulbous portion of the urethra.
- G.* The coat of the bladder much inflamed.

FIG. 2

Represents the morbid appearances found in the disease of the bladder, denominated uvula vesicæ.

- A.* The cavity of the bladder.
 - B.* The tumour.
 - C.* The prostate gland somewhat enlarged.
 - D.* The membranous portion of the urethra.
 - E.* The bulbous portion of the urethra.
 - F.* A catheter introduced along the urethra until its point touch the tumour.
-

PLATE III.

Represents a considerable and irregular enlargement of the prostate gland.

- AA.* A section of the bladder: its coats are much thickened.
- BB.* The orifices or openings of the ureters into the bladder enlarged.
- CC.* The sides of the enlarged prostate projecting into the urinary canal the right side considerably more

than the other, thereby causing the prostatic portion of the urethra to pursue a winding instead of a straight course.

- D.* The posterior portion of the middle lobe of the prostate projecting backwards and upwards into the cavity of the bladder.
-

PLATE IV.

FIG. 1

Represents a section of the bladder in a state of ulceration on its inner surface, from obstruction in the urethra to the passage of the urine.

- AA.* The cut edge of the bladder, showing its coats to be thickened.
- BB.* The ulcerated portion of the internal or mucous portion of the bladder.
- C.* The remaining portion of the internal or mucous membrane of the bladder.
- DD.* The opening of the ureters.

FIG. 2

Represents an enlargement of the prostate gland, through a part of which an instrument had been passed in attempting to draw off the urine.

Fig 1.

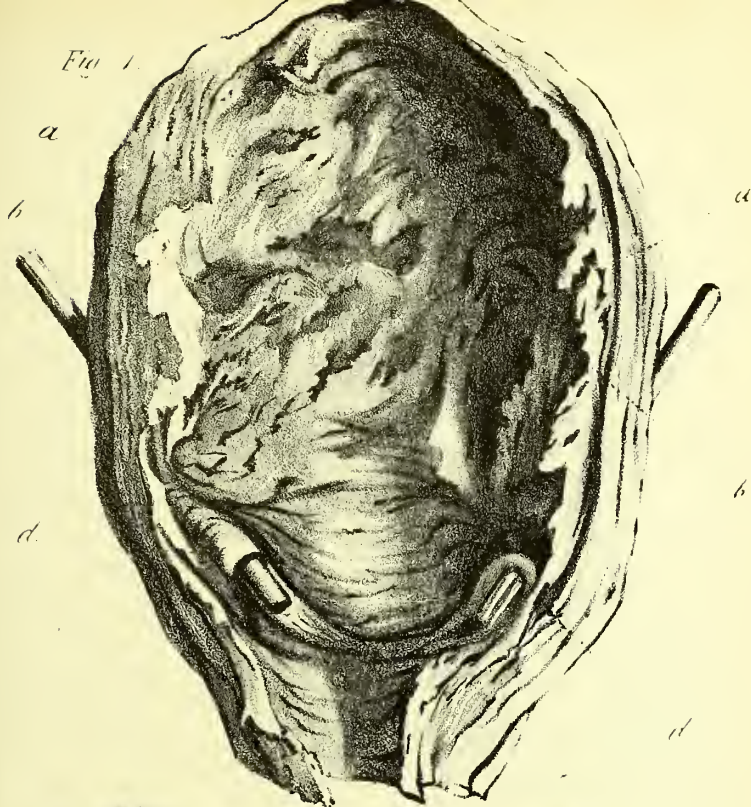
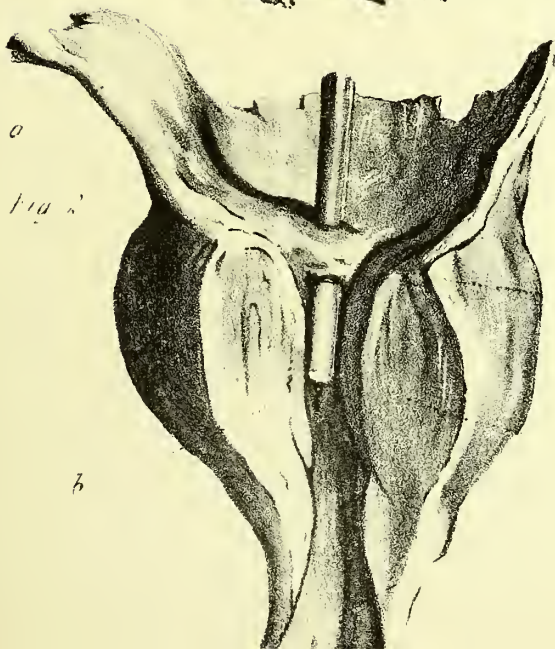
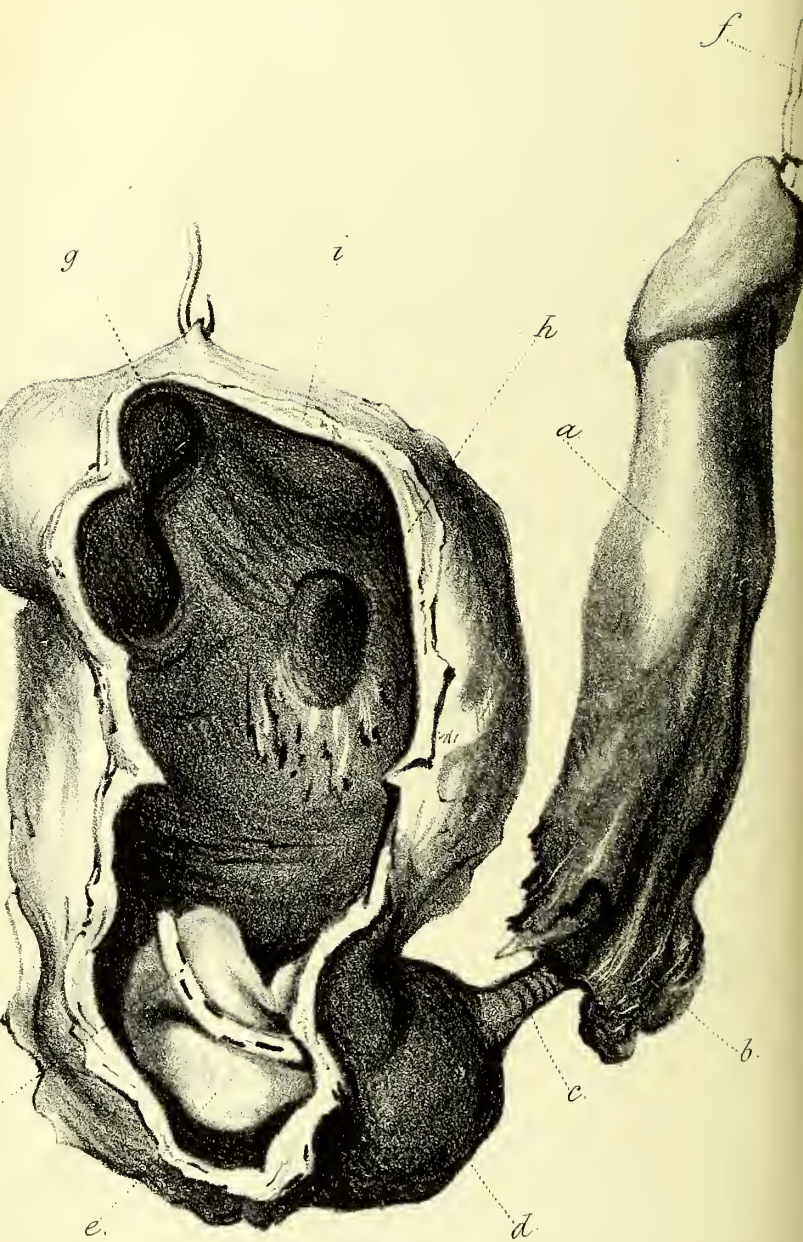


Fig 2.





- AA.* A portion of the bladder.
 - BB.* Two sides of the enlarged prostate.
 - C.* The portion of the prostate gland through which the instrument had been passed. A piece of bougie is introduced through the false passage into the bladder.
-

P L A T E V.

This plate represents an enlargement of the prostate gland, the third lobe of which is seen projecting in the bladder; its effects on that viscus are also shown.

- A.* The penis.
- B.* The bulb of the urethra.
- C.* Membranous portion of the urethra.
- D.* The prostate gland enlarged.
- E.* The third lobe of the posterior gland greatly enlarged, and projecting into the bladder.
- FF.* A catheter introduced into the bladder; the point is seen over the enlargement of the third lobe.
- G.* A sac or pouch.
- H.* Another sac.
- I.* The cut edge of the bladder.

PLATE VI.

This plate represents a kidney, the ureter, pelvis, and infundibula of which are considerably enlarged, in consequence of obstruction existing in the urethra to the exit of the urine.

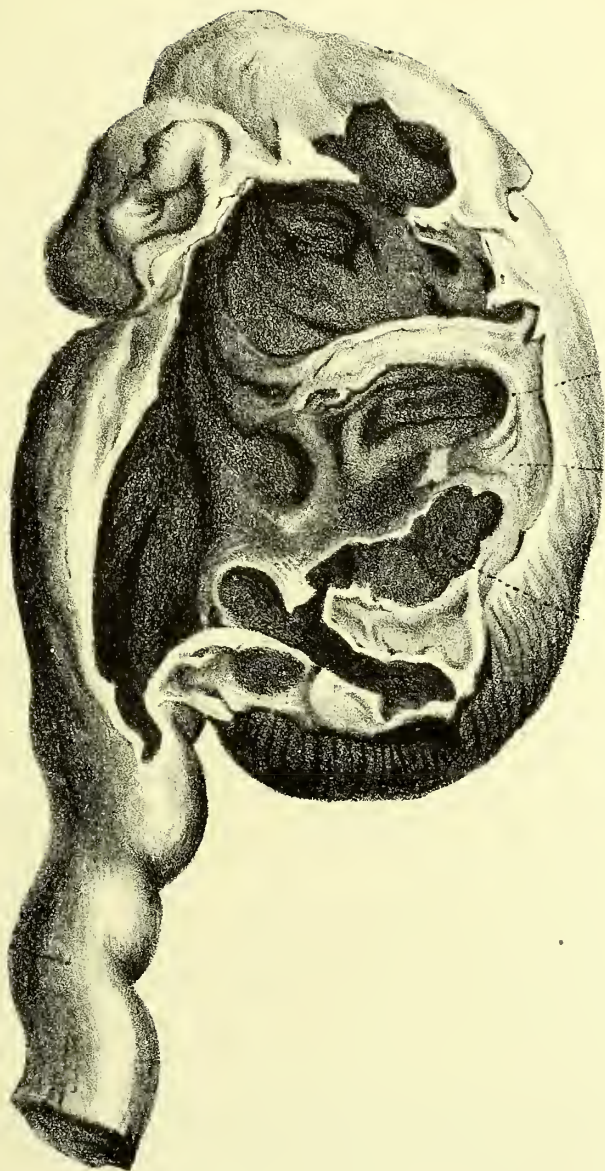
- A.* The substance of the kidney, which has become very thin.
 - BB.* The infundibula much enlarged
 - C.* The pelvis considerably enlarged.
 - D.* The ureter very much enlarged.
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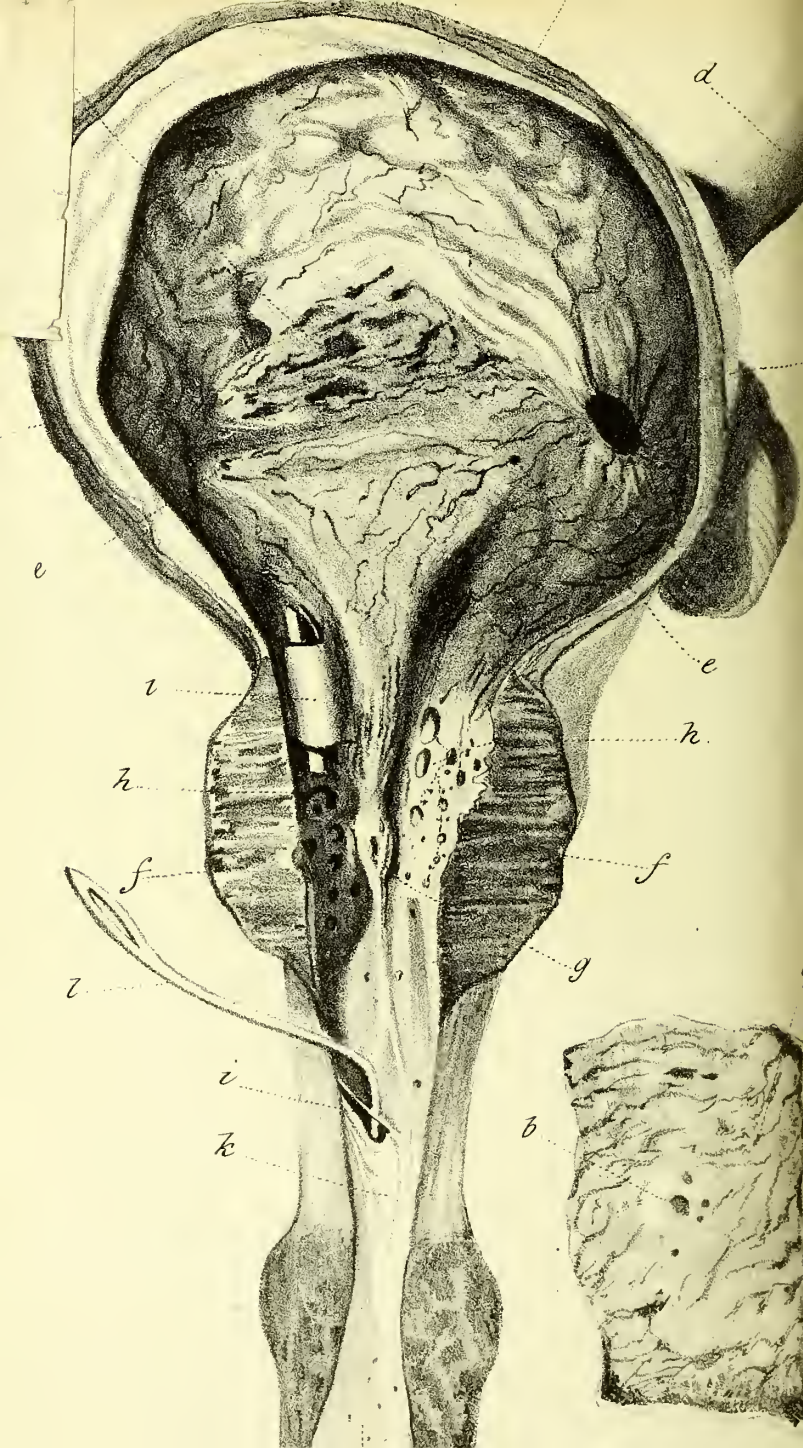
PLATE VII.

FIG. 1.

This plate represents the morbid appearances that were found at the *post mortem* examination of J. D., as mentioned in Case VII. p. 146.

- A.* The cavity of the bladder ; the internal or mucous coat of which is seen to be highly inflamed.
- B.* The opening of the sac or pouch communicating with the bladder.
- CC.* The cut edges of the bladder somewhat thickened.
- DD.* The ureters ; the right is much enlarged.
- EE.* The orifice of the ureters in the bladder.
- FF.* The prostate gland enlarged.





- G.* The prostatic portion of the urethra. The ducts of the prostate (*HH.*) are seen much enlarged.
- I.* The false passage communicating from the prostate to the bladder. A piece of bougie is seen introduced along the false passage.
- J.* The thread-like stricture, under which a probe is passed, and continued down to the termination of the broad band (*K*).
- K.* A broad band of adhesions that have been thrown across the urethra. The probe is seen to pass under it for more than an inch.
- L.* A probe passed under the stricture.
- M.* The continuation of the urethra.

FIG. 2.

This represents the portion of the rectum that was adherent to the prostate gland.

- A.* The internal surface of the rectum highly inflamed.
 - B.* The largest of the fistulous openings that communicated with the prostate. Four other smaller ones are seen near the larger one.
-

PLATE VIII.

Represents a section of the right kidney.

- AAA.* Cortical part of the kidney.
- BB.* Tabular part of the kidney.

CC. Capsule of the kidney.

DD. The infundibuli.

E. Granular fat surrounding the kidney.

F. Ureter much dilated.

G. Commencement of the pelvis of the kidney occupied by a large calculus, which completely filled the pelvis, and was making its way into the ureter.

HH. The calculi, which occupied each of the infundibuli without exception.

I. Mucous surface, covered with greenish pus.

